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ENGLISH BOTANY;
OR,
COLOURED FIGURES
OF
BRITISH PLANTS,

WITH THEIR
ESSENTIAL CHARACTERS, SYNONYMS,
AND PLACES OF GROWTH.

TO WHICH WILL BE ADDED,
OCCASIONAL REMARKS,

BY

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STOCKHOLM, LISBON, ETC. ETC.
PRESIDENT OF THE LINNÆAN SOCIETY.

THE FIGURES BY
JAMES SOWERBY, F.L.S.

“VIRESCQUE ACQUIRIT EUNDO.”

VIRG.

VOL. IV.

L O N D O N:

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P R E F A C E

TO THE

FOURTH VOLUME

OF

ENGLISH BOTANY.

WHEN Mr. Sowerby undertook to illustrate the Plants of Great Britain by figures, he thought it advisable for those figures to be accompanied by some account of the plants, and requested my assistance for that purpose. I the more readily acceded to his proposal, from having long thought the botanical language of this country required to be improved and fixed, and being ever willing to lend my assistance towards so desirable an end. I have therefore to answer for every word in this publication, except the letter-press to plates 16, 17 and 18, which happened to be communicated by another friend of the editor.

But neither was Mr. Sowerby nor myself at first aware of the importance to which this little work might attain, nor of the utility it might be of as a vehicle for botanical criticism upon British plants. Nor did I in the early part aim at any thing, except, in addition to the essential characters and synonyms, to say something which might allure the careless observer, and stimulate the curiosity of the inexperienced to enquire farther into the mysteries
and

and charms of science than such a publication could undertake to conduct them. Descriptions were therefore for the most part omitted, or but slightly sketched, and dissections of the flower were scarcely ever introduced into the plates. Some of my learned friends were pleased to compliment me by thinking the work beneath my notice, and others advised that I should put my name to it by way of giving it consequence. As to the first observation, I have always thought size or mode of publication had very little to do with the value or dignity of a book; for who would not rather have been the author of the little *Fundamenta Botanica* than of all the 26 pompous volumes of Hill's *Vegetable System*? And with respect to the latter remark, I chose rather that the work should make its way by any merit or utility it might be found to possess, than be indebted to other performances for a name. Not that any pains were taken to conceal the real author, nor was I aware that the truth, after a little time, was not generally known; till a criticism appeared in the Gentleman's Magazine for February 1793; in answer to which, in that for April following, it became necessary to own the work as entirely mine; and the title page will in future obviate all doubt on the subject, though the style of the descriptions will not be changed. The approbation the book has received, will make me anxious to support its credit with my own as it proceeds, and the *English Botany* will serve to illustrate the systematic *Flora Britannica*, which has long been projected and is now preparing.

HammerSmith,
November 1, 1795.

J. E. SMITH.

MENYANTHES nymphoides.

*Fringed Buckbean.**PENTANDRIA Monogynia.*

GEN. CHAR. *Corolla* hairy. *Stigma* cloven. *Capf.* of 1 cell.

SPEC. CHAR. Leaves heart-shaped, entire, waved. *Corolla* ciliated.

SYN. *Menyanthes nymphoides.* *Linn. Sp. Pl.* 207.
Huds. Fl. An. 85. *With. Bot. Arr.* 206. *Relb.*
Cant. 82. *Sibth. Oxon.* 73.

Nymphæa lutea minor flore fimbriato. *Raii Syn.* 368.

Limnanthemum peltatum. *Gmelin in Aët. Petrop.*
anno 1769, v. 14. p. 527. t. 17. f. 2. è MSS. Linn.

Waldschmidia nymphoides. *Wiggers Flo. Holst.* 20.

THIS beautiful aquatic is found occasionally in the Thames, chiefly in little recesses of its shores out of the great stream; Lord Lewisham communicated it from near Walton bridge. It is much more frequent in the still canals of Holland than with us.

Root perennial, long and stringy, as are also the stems. They produce a few pair of opposite floating leaves, growing on foot-stalks various in length according to the depth of the water, their margin scarcely toothed, but rather waved. These leaves, like those of the *Nymphæa*, perspire quicker than almost any others we have observed, so as to become dry in a few hours, though at first so succulent. The flowers grow from the axillæ about August, in a kind of sessile umbel, 4 or 5 together, on long foot-stalks, and when expanded in the sun have a brilliant appearance. Their corolla is ciliated, but not hairy upon the surface like *M. trifoliata*: hence some have thought it did not answer to the generic character, and Wiggers has asserted that it belongs even to a different natural order from the last-mentioned plant, but without telling us why. As Mr. de Jussieu, whose authority is very great upon such a point, has not separated them, and as *M. indica* seems to connect the two, we think they may safely remain as they are.



MYRIOPHYLLUM verticillatum.

Verticillate Water-Milfoil.

MONOECIA Polyandria.

GEN. CHAR. Male. *Cal.* 4-leaved. *Pet.* 4. *Stam.* 8.Female. *Cal.* 4-leaved. *Pet.* 4. *Pist.* 4. *Style* none.
Seeds 4, naked.

SPEC. CHAR. All the flowers in axillary whorls.

SYN. *Myriophyllum verticillatum.* *Linn. Sp. Pl.*1410. *Hudf. Fl. An.* 420. *With. Bot. Arr.* 1078.*Relb. Cant.* 361. *Sibth. Oxon.* 132.*Pentapterophyllum aquaticum flosculis ad foliorum
nodos.* *Raii Syn.* 316.

WE have given the most common Water Milfoil in *tab.* 83 of this work. That now before us is much more rare. It has been sent from several of the eastern parts of the kingdom. Mr. Crowe discovered it in his ponds at Lakenham, near Norwich, last summer.

The root and lower part of the stem much resemble those of *M. spicatum*, as do such of the leaves as are under water, except that all the leaves grow in fives. The upper part of the stem is however materially different from that species, being raised several inches above the surface, and clothed to the top with leaves, shorter and less finely cut indeed than those which are under water, but verticillated in the same manner. From their axillæ the flowers appear in July, of a pale green, sometimes hermaphrodite, but generally female in the lower whorls, male in the upper. The petals are oval, concave, green, soon falling off, and possibly the female flowers may often want them, though they were evident in our specimen. The 4 stigmata are short, spreading, and finely tufted.



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A R E N A R I A tenuifolia.

*Fine-leaved Sandwort.**DECANDRIA Trigynia.*

GEN. CHAR. *Cal.* 5-leaved, spreading. *Petals* 5, undivided. *Capf.* of one cell, with many seeds.

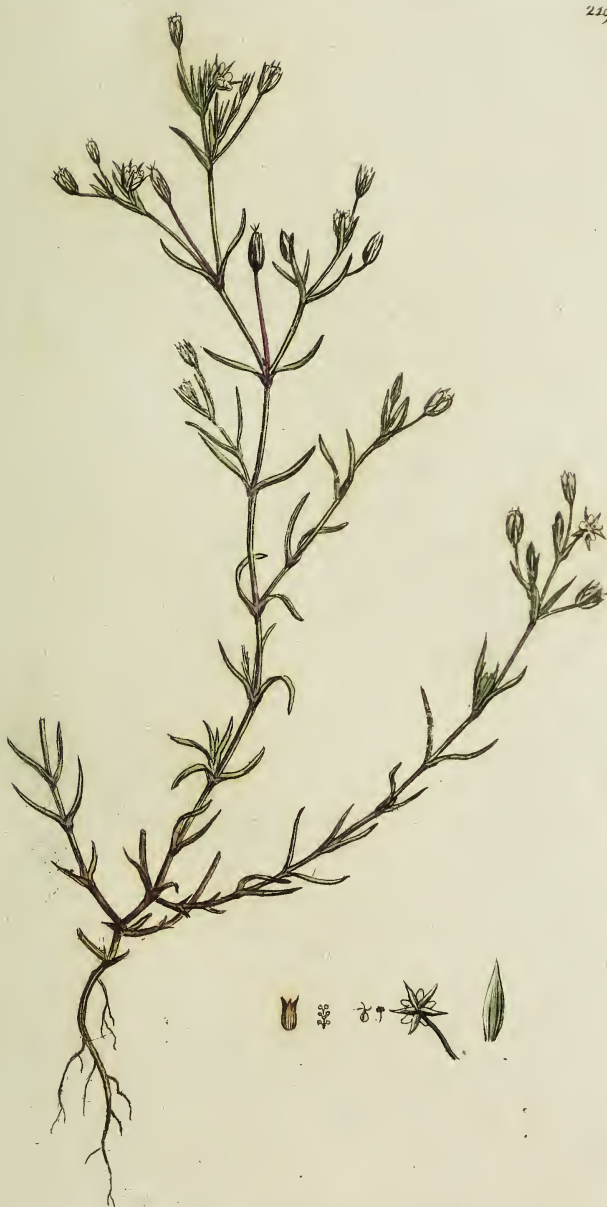
SPEC. CHAR. Leaves awl-shaped. Stem paniced. Capsules erect. Petals lanceolate, shorter than the calyx.

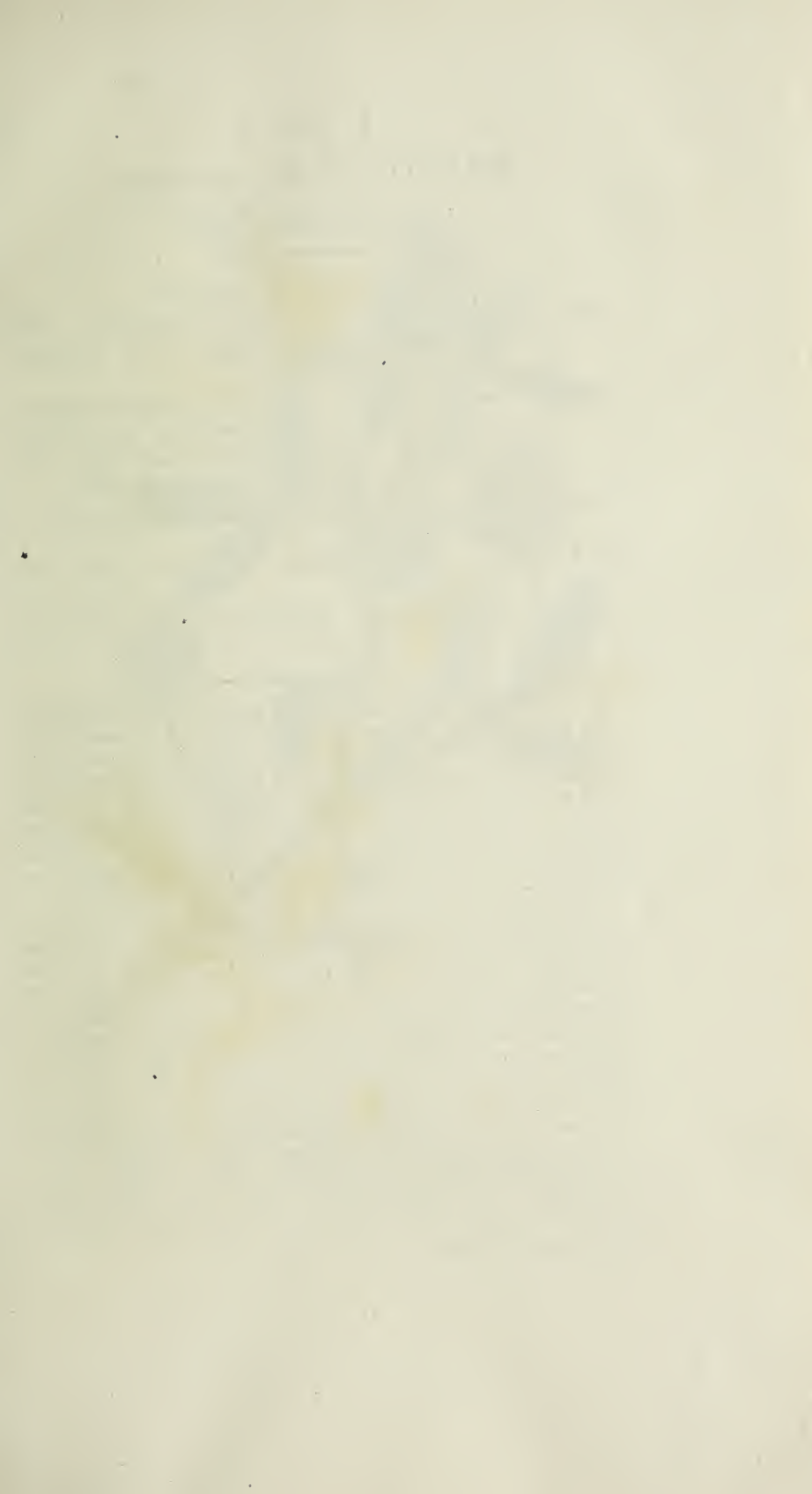
SYN. *Arenaria tenuifolia.* *Linn. Sp. Pl.* 607. *Huds. Fl. An.* 192. *With. Bot. Arr.* 461. *Relb. Cant.* 172. *Sibth. Oxon.* 142.

Aline tenuifolia. *Raii Syn.* 350.

SENT by the Rev. Mr. Hemsted from the neighbourhood of Newmarket, where it grows in dry sandy fields, on walls, &c. contenting itself with very spare nourishment, though not succulent so as to resist much drought. Accordingly it flowers early in summer, and is soon entirely dried up. Its seeds produce another crop the following spring.

The small annual root bears several branching stems, varying much in size according to the degree of moisture they are supplied with, and clothed with opposite awl-shaped leaves, joined at their base, striated at their back, or rather 3-ribbed, smooth. Flower-stalks solitary, single-flowered, capillary, erect, longer than the leaves, and so numerous as to make the stem look like a panicle. Flowers very small and inconspicuous. Calyx-leaves lanceolate, very acute, 3-ribbed, with a white membranous margin, and twice as long as the little narrow white petals. The flowers rarely expand but in bright sunshine, and are soon past. Stamina certainly ten, very short. Germen round. Capsule cylindrical, as long as the calyx. It is a little plant of insignificant appearance, whose use either to mankind or the brute creation is hitherto unknown.





TRIFOLIUM maritimum.

*Teasel-headed Trefoil.**DIADELPHIA Decandria.*

GEN. CHAR. *Flowers* more or less capitate. *Pod* scarcely longer than the calyx, never bursting, but falling off entire.

SPEC. CHAR. Spikes hairy, globose. Stipulæ lanceolate, erect. Calyx-teeth spreading, and dilated after flowering. Leaflets obovato-lanceolate, the lowermost obcordate; upper leaves opposite.

SYN. *Trifolium maritimum.* *Huds. Fl. An. ed. 1.* 284.

T. stellatum. *Huds. Fl. An. ed. 2.* 326. *Witb. Bot. Arr.* 799.

T. stellatum glabrum. *Raii Syn.* 329. *Ger. em.* 1208. *Pluk. Phyt. t.* 113. *f.* 4.

THE above are the only certain synonyms we can find for this Trefoil. Mr. Hudson rightly published it as new in his first edition, and sent it to Linnæus, who has preserved it in his Herbarium, marked Hudson's *T. maritimum*, without referring it to any of his own, yet he neglected to insert it in his subsequent works. We are at a loss to guess why Mr. Hudson afterwards took this plant for *T. stellatum*, a very different species, as is evident from the figures erroneously quoted (except Plukenet's) in the *Bot. Arr.* which are the real *stellatum*.

T. maritimum grows in salt-marshes, and meadows near the sea in various parts of England, from Norfolk all along the south and west coast to Wales. Mr. Wigg has sent it from Yarmouth, and Sir Thomas Cullum from Weymouth. The former assures us the root is certainly annual, as Ray marks it. The stems are spreading and branched, erect only when many grow together, a little hairy, very various in height. Leaves alternate, except the uppermost pair; leaflets obovate, narrow, minutely notched at the tip, of a darkish green. Stipulæ very narrow. Spikes short, almost globose. Calyx-teeth sharp, a little unequal in the flower, and more so in the fruit, in which last state they become broad and spreading. Petals nearly equal in length, palish red. The original observer of this species seems to have been Dr. Johnson, the editor, if not always the emendator, of Gerarde's Herbal.





TRITICUM loliaceum.

*Spiked Sea Wheat-grass.**TRIANDRIA Digynia.*

GEN. CHAR. *Cal.* of two valves, solitary, alternate, upon a zigzag *rachis*, and containing several obtuse, but pointed, florets.

SPEC. CHAR. Calyx many-flowered. Spike simple, compressed; spiculæ ovate, all leaning one way.

SYN. *Triticum unilaterale*. *Ait. Hort. Kew. v. 1.* 122. but not of Linnæus.

T. maritimum. *With. Bot. Arr.* 130.

Poa loliacea. *Hudf. Fl. An.* 43. *With. Bot. Arr.* 91. *Relb. Cant.* 37.

Gramen pumilum Loliaceo simile. *Raii Syn.* 395.

Gr. loliaceum exile durius. *Smith Rel. Rudb.* 13.

GATHERED by the Rev. Mr. Bryant on the northern coast of Norfolk. It occurs on the sandy beach in many parts of England, according to Ray and Hudson, flowering about Midsummer.

The root is annual, consisting of long downy fibres as in most grasses that grow in pure sand. Several short rigid curved stems arise from it, clothed with sheathing leaves, which are involute when dry. A short notched beardless stipula crowns the inside of their sheaths. The general spike is terminal, erect, composed of from 8 or 9 to 12 or 15 erect flowers or spiculæ, placed alternately on each edge of the common *rachis* or stalk, but all directed to one of its flat sides, which is by that means completely hidden, while the other is visible behind. The calyx-husks are lanceolate, equal, reaching to the top of the lowest florets. The partial *rachis* is zigzag, and exactly like the general one; an argument for the propriety of considering the latter as a part of the fructification, and consequently making the plant a *Triticum*, not a *Poa*. The florets are numerous; their outer valves very blunt, with a sharp point, the inner lanceolate and acute. Nectary a minute concave scale. Stamina and pistilla short.

Linnæus has wonderfully erred in confounding this with his *T. maritimum*, which is a large branched grass with linear spiculæ and acuminate florets, well described in *Sp. Pl.* and which has hitherto been found only in the South of France. *T. unilaterale* is no less distinct, and is well figured by Morison, *vol. 3. sec. 8. t. 2. f. 3.*



P H A L A R I S arenaria.

Sea Canary-grass.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* of two carinated equal valves, longer than the corolla, single flowered.

SPEC. CHAR. Spike ovato-lanceolate. Glumes ciliated. Stems several.

SYN. *Phalaris arenaria.* *Huds. Fl. An.* 23.

Ph. phleoides β. *Ait. Hort. Kew. v.* 1. 86.

Phleum arenarium. *Linn. Sp. Pl.* 88. *With. Bot. Arr.* 62.

Gramen typhinum maritimum minus. *Raii Syn.* 398.

FOUND every where about sandy sea-shores and the neighbouring fields; it has even been observed upon Swaffham heath by James Crowe Esq. and on that of Newmarket by the Rev. Mr. Hemsted, who favoured us with this specimen. On the sea-coast the plant is seldom so luxuriant. It is an annual, and flowers in June.

The root is fibrous, and downy, like the grass last described. Stems several, dividing from the crown of the root or a little higher as in wheat, sometimes bent at the joints, clothed with leaves, whose edge is a little rough, their sheaths long, inflated, striated and smooth. The flower-stalk commonly very little exceeds the uppermost leaf, and is terminated by an upright rigid spike, swelling in the middle, consisting of a great number of erect thick-set flowers. The calyx is green, with white keel ribs and margin; the valves lanceolate, gradually tapering to a sharp point, and by no means lopped or truncated as in the genus *Phleum*; their keel, and sometimes their margin, is ciliated with white hairs. Corolla of two short, crenated, striated petals.

The ciliated valves distinguish this plant from *Phalaris phleoides* of Linnæus, certainly of the same genus, though its different habit and appearance (which we hope one day to have an opportunity of exhibiting) will not allow us to agree with the *Hortus Kewensis* in making them the same species. Not one of our English writers has well understood these two grasses, nor *Phleum paniculatum* of Hudson, which is very distinct from both.



No. 1704. *Al. l.* *B. l.*

LICHEN coccineus.

Scarlet Lichen.

CRYPTOGAMIA *Alga.*

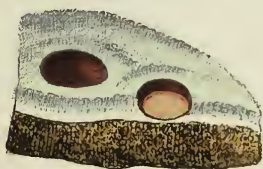
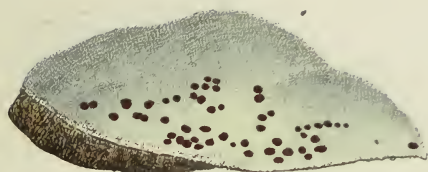
GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crustaceous and mealy, of a greenish sulphur colour. Tubercles of a vivid red, immersed in the crust.

SYN. Lichen coccineus. *Dickf. Crypt. Fasc. 1. 8. t. 2.*
f. 1. With. Bot. Arr. v. 3. 167.

DISCOVERED by Dr. Smith upon the rocks called Salisbury Craigs commanding the town of Edinburgh, by Mr. Dickson upon Stonehenge in Wiltshire, and Mr. T. F. Forster jun. near Tunbridge. It is indeed a very rare species, but may also probably have been overlooked for a young or imperfect specimen of *L. ventosus*. Yet, as Mr. Dickson observes, they are very distinct species; the latter having a hard, firm, warty crust, of a yellowish colour at first, but then turning white, and never at any time mealy, but smooth and rather polished. Neither are its tubercles so uniform as those of *L. coccineus*, nor is their colour so vivid. Both are very elegant productions.



LYCOPODIUM clavatum.

*Common Club-moss.**CRYPTOGAMIA Miscellaneæ.*

GEN. CHAR. *Capsules* axillary, solitary, naked, kidney-shaped, of two elastic valves and one cell. *Seeds* numerous, minute.

SPEC. CHAR. Leaves scattered, terminating in threads. Spikes cylindrical, on footstalks, about two together.

SYN. *Lycopodium clavatum.* Linn. *Sp. Pl.* 1564. Hudf. *Fl. An.* 462. *With Bot. Arr.* v. 3. 68. *Reb. Cant.* 393. *Sibth. Oxon.* 265.

Lycopodium. Raii *Syn.* 107.

L. vulgare pilosum, amfragosum et repens. Dill. *Musc.* 441. t. 58. f. 1.

COMMON on mountainous heaths, especially in the north. The branched stem creeps close to the ground to a great extent, throwing out a strong branched white perennial root at the distance of every two or three inches. The leaves are crowded thick together, entirely covering the stem, all curved upwards from the ground, lanceolate, finely serrated, tipped with a white filament. Flowering branches erect, solitary, leafy at the bottom, then bearing a few scattered, entire, pale-green scales only, and terminating in one, two, or three cylindrical spikes, thickly clothed with the same kind of scales, but broader, in the axilla of each of which is a small yellowish kidney-shaped capsule, called by Linnæus *anthera*, full of very minute seeds. The fructification is produced about the middle of Summer. The whole plant is of a harsh, dry, and lasting nature, but its colour soon fades. The seeds are highly inflammable, and explode like gunpowder, as all authors mention.

This genus has been reckoned among the mosses, till Dr. Hedwig observed that tribe more accurately. We adopt for the present only Professor Schreber's order of *Miscellaneæ*, because we really do not know what else to do, but the term is unscientific, and the order too vague. *Ophioglossum* and *Osmunda* have much analogy in fructification with *Lycopodium*.



HYPOCHÆRIS maculata.

*Spotted Hawkweed, or Cat's-car.**SYNGENESIA Polygamia-aqualis.*

GEN. CHAR. *Recept.* chaffy. *Cal.* somewhat imbricated. *Seed-down* feathery.

SPEC. CHAR. Stem naked, solitary. Leaves ovato-oblong, undivided, dentated.

SYN. *Hypochæris maculata.* *Linn. Sp. Pl.* 1140. *Huds. Fl. An.* 346. *With. Bot. Arr.* 858. *Relb. Cant.* 300.

Hieracium primum latifolium. *Raii Syn.* 167. *Ger. em.* 301.

ONE of our rare chalk-country plants, discovered hitherto only about Newmarket heath, Burnack heath Northamptonshire, and in the sequestered country about Malham Cove in Yorkshire. Mr. Hemsted gathered our present specimen near the Devil's ditch, where Ray mentions its growing. It is perennial, flowering in July.

The root is thick and long, abounding with milky juice, as does the rest of the plant. Leaves all radical, except the plant becomes luxuriant from cultivation, oblong, somewhat pointed, very irregularly toothed, rough, spotted with red or brown. Stalk commonly simple and single-flowered, roughish, with one or two distant lanceolate bractæ. Outer scales of the calyx rough with black prominent bristles, intermixed with scattered white ones. The Flower, not much unlike that of Dandelion, closes in the afternoon, and "turneth into a downie blowball," as Gerarde says, "that is carried away with the winde." The seeds, according to Linnæus, are wrinkled. We have not seen them in a ripe state.



Ranunculus flammula L.

S T A T I C E *Armeria.**Thrift.*

PENTANDRIA Pentagynia.

GEN. CHAR. *Cal.* of one leaf, entire, plaited, filmy.

Petals five. *Seed* single.

SPEC. CHAR. Stalk simple, bearing a round head of flowers. Leaves linear.

SYN. *Statice Armeria.* *Linn. Sp. Pl.* 394. *Huds. Fl.*

An. 132. *With. Bot. Arr.* 326. *Relb. Cant.* 129.

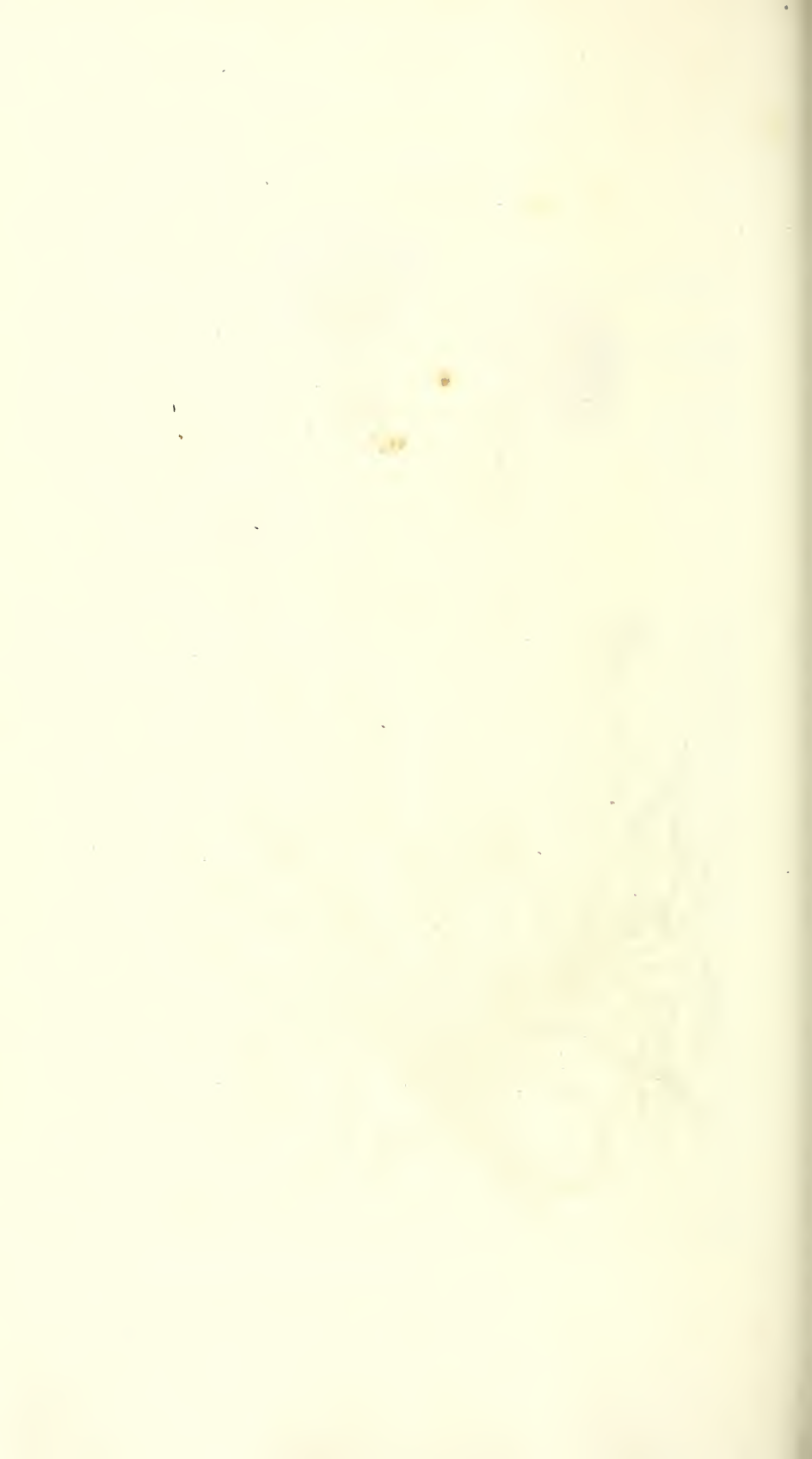
Lightf. Scot. 173.

S. montana minor. *Raii Syn.* 203.

“THE most humble and most lofty of plants,” says Mr. Lightfoot; “it grows frequently upon the sea-shores, and upon the summits of the highest mountains.” Neither is it less common in Enl and and Wales than in Scotland, in both kinds of situations. We have examined it from both, and found no difference between the specimens. Its favourite maritime soil is of the muddy kind. The constitution of this plant indeed seems of a very accommodating nature, for it grows equally well in any garden, even in the smoke of London, and is much used for edgings. From its readiness to thrive in any situation, the English name has probably been given. It flowers about July and August.

Root perennial, woody, bearing many thick tufts of lax, linear, channelled, smooth, entire leaves. Stalks varying much in height, round, naked, each terminated by a globular head of several flowers, encompassed with a many-leaved involucre, whose base is attached to a singular cylindrical membranous sheath, about an inch long, which invests the top of the stalk, its lower end being loose and lacerated, so that it seems to have been torn off from the root, and carried up with the young growing stalk. Calyx small, erect. Petals rose-coloured. Crown of the seed fringed.





S I S O N inundatum.

*Water Honewort.**PENTANDRIA Digynia.*

GEN. CHAR. *Fruit* oval, striated. *Involucra* both general and partial, each of about four leaves.

SPEC. CHAR. Creeping. General umbel of only two rays, and wanting a general involucre.

SYN. *Sison inundatum.* *Linn. Sp. Pl.* 363. *Huds. Fl. An.* 120. *With. Bot. Arr.* 295. *Relb. Cant.* 117. *Sibth. Oxon.* 98.

Sium pufillum, foliis variis. *Raii Syn.* 212.

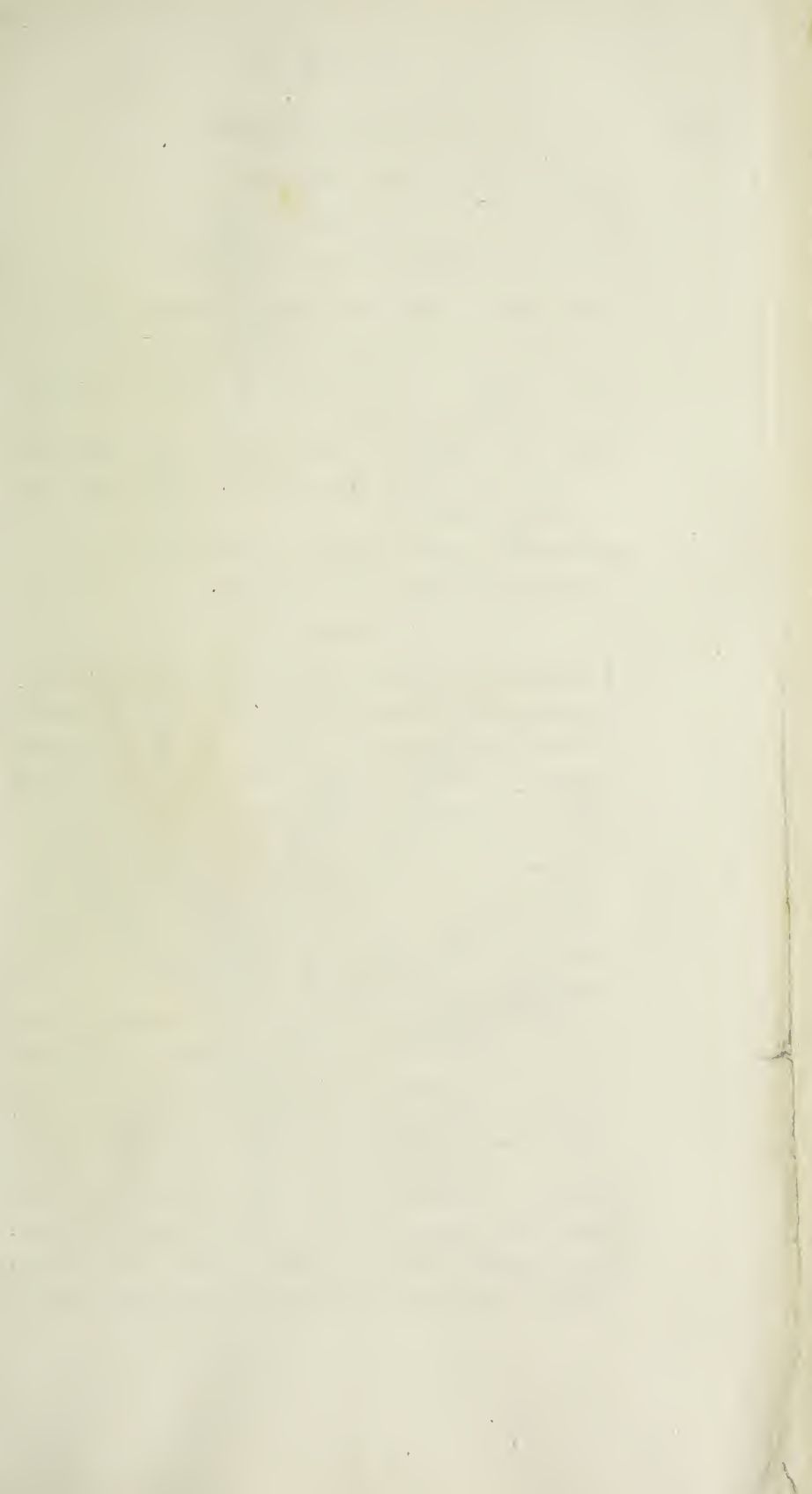
THIS we believe is not a very unfrequent inhabitant of wet places that are overflowed in winter, as well as of ditches and pools among other aquatics. Most authors, except Ray, make it annual. Others, as Linnæus, do not pretend to decide upon its duration, in which class we must humbly rank ourselves, only observing that from its flowering so early as May, it is probably at least biennial.

The round, partly floating, stem throws out a few long simple fibres from the bottom, and is furnished with alternate pin-nated leaves, whose membranous sheathing stipulæ embrace the stem. Such leaflets as are above the water are commonly wedge-shaped, and three-cleft, sometimes elliptical and undi-vided; those that are under water, especially at any depth, are finely divided into capillary segments, as in *Ranunculus aqua-tilis*. See a good remark on this subject in Ray's Synopsis, 212. The umbels are placed opposite to each leaf, just within the stipula, on longish footstalks, and consist of only two partial umbels, without any general involucre. Each partial umbel has about five white, slightly radiant, flowers, with oval, entire, spreading petals. Fruit compressed and striated.

We cannot help thinking this plant belongs rather to *Hydrocotyle* than to any other genus.



J. Sowerby del. Oct. 1792.



S I S O N fegetum.

*Corn Honewort.**PENTANDRIA Digynia.*

GEN. CHAR. *Fruit* oval, striated. *Involucra* both general and partial, each of about four leaves.

SPEC. CHAR. Leaves pinnated; leaflets roundish. Umbels drooping.

SYN. *Sison fegetum.* Linn. *Sp. Pl.* 362. *Huds. Fl. An.* 120. *With. Bot. Arr.* 294. *Relb. Cant.* 117. *Sibth. Oxon.* 97.

Sium arvense five fegetum. *Raii Syn.* 211.

Selinum Sii foliis. *Ger. em.* 1018.

COMMUNICATED from fields near Kelmarsh, in Northamptonshire, by William Hanbury, Esq. It has been observed in several parts of England in a chalk or clay soil, but not very frequently. Messrs. Forsters find it at Walthamstow. It flowers in July, and is annual in general, though often biennial, as we find remarked by that accurate observer Mr. John Goodyer, in Gerarde's Herbal. His whole account of this herb, with the origin of its name *Honewort* (from its curing a swelling in the cheek, called a Hone), with all the history of "Mistress Ursula Leigh," and "Mistress Charitie Leigh," is a model of accurate inquiry and precise information.

Root small, but strong. Stems several, spreading in every direction, slender and rush-like, but branched and furnished with several alternate pinnated leaves. The radical leaves are the largest, consisting of from seven to fifteen neat little roundish leaflets, sharply serrated, and scarcely lobed. The general umbels are of very few and unequal rays; the partial ones are drooping, and, as Goodyer says, "uneven or unordered," their flower-stalks being very various in length. Flowers very small. Petals regular, incurved. Antheræ purple. Fruit striated, pungent and aromatic, as is the whole plant in some degree.



SELINUM palustre.

*Marsh Milky Parsley.**PENTANDRIA Digynia.*

GEN. CHAR. *Fruit* oval-oblong, compressed, striated down the middle. *Involucra* general and partial, reflexed. *Petals* heart-shaped, uniform.

SPEC. CHAR. *Milky*. Root generally single. Stem solitary. Styles much divaricated after flowering. Petals involute.

SYN. *Selinum palustre*. *Linn. Sp. Pl.* 350. *Hudf. Fl. An.* 115. *With. Bot. Arr.* 281.

GATHERED by Dr. Smith July 28, 1794, in the ditches of a very wet reedy meadow between Norwich and Heigham, where it was first observed by Mr. Pitchford. Ray seems not to have known this plant to be a native of England.

Root somewhat spindle-shaped, with several fibres from the top. Stem solitary, erect, four or five feet high, hollow, deeply furrowed, not hairy, bright purple at the base, bearing five or six remote alternate leaves; the lowermost on long furrowed footstalks, with sheathing reddish stipulæ, and all twice or thrice oppositely pinnated, and cut into narrow, pointed, opposite or alternate, smooth segments, of which the terminal ones are longest. The upper part of the stem is alternately branched, in a corymbose manner, bearing many large, horizontal, compound umbels of white flowers, on pale purplish footstalks. Involucra of several shortish, dependent, lanceolate, pointed leaves, with membranous edges. Petals uniform, inflexed. Fruit elliptical, sharp edged.

The whole plant abounds with a white, bitter, foetid juice, of the consistence of cream, which soon dries to a brownish resin. The Russians are said to use the root instead of ginger.

Dr. Stokes justly remarks (*Bot. Arr.*) that Jacquin's *Selinum sylvestre*, figured in *Fl. Austriaca*, is this plant, and not the *sylvestre* of Linnæus. This we have verified by comparing original specimens. In both however the stem is furrowed. The difference of one having a solitary stem, the other a great number, seems more certain than the difference of the roots.



F. 1795. L. 1795. by P. R. 1795.

SMYRNIUM Olusatrum.

Alexanders.

PENTANDRIA Digynia.

GEN. CHAR. *Fruit* oblong, angular. *Petals* pointed, carinated. Many *flowers* abortive. *Involucra* none.

SPEC. CHAR. Stem-leaves in threes, on footstalks, ferrated.

SYN. Smyrnium Olusatrum. *Linn. Sp. Pl.* 376.
Huds. Fl. An. 126. *With. Bot. Arr.* 310. *Relb.*
Cant. 123. *Sibth. Oxon.* 101.
 Smyrnium. *Raii Syn.* 208.

THIS is rather a maritime plant, and is found near the coast in many places; but whether from having been formerly cultivated as a pot-herb, or the seeds dispersed by any other means, it now occurs about many inland towns, as Nottingham, York, Bury, Newmarket, and about Mackerell's tower Norwich. The root is biennial, and the flowers appear in May. By the middle of July the stalks are dried up, but remain laden with large black seeds.

The stem is strong, deeply furrowed. Leaves large, twice or thrice ternate, cut and ferrated. Flowers small, numerous and irregular. The whole herb is of a pale bright green, smooth, succulent, in flavour something like cellery, but more strong and bitter. It is now out of use, though formerly eaten in various parts of Europe, either as a salad or pot-herb, whence the name *Olus atrum*. Ray thinks it was called *Alexanders* because in Italy and Germany it had long been denominated *herba Alexandrina*, having been supposed to be brought from Alexandria.



Fl. 1795. *Polygonum*, 3^e Planche.

B U N I A S Cakile.

*Sea Rocket.**TETRADYNAMIA Siliculosa.*

GEN. CHAR. *Pouch* deciduous, square, the angles unequal and sharp.

SPEC. CHAR. *Pouch* ovate, smooth, two-edged. Leaves succulent.

SYN. *Bunias Cakile.* *Linn. Sp. Pl.* 936. *Huds. Fl. An.* 298. *With. Bot. Arr.* 716.

Cakile quibusdam, aliis Eruca marina et Raphanus marinus. Raii Syn. 307.

A COMMON annual on sandy sea-shores, flowering from June to September, and making a very ornamental appearance.

From an inconsiderable root rises a very bushy branched stem, spreading in every direction, with branches so zigzag and twisted there is scarcely a straight line about them. Leaves alternate, thick and succulent, rather glaucous, smooth, more or less deeply pinnatifid and toothed, their segments all obtuse, each tipped with a minute, seemingly glandular, point. Flowers in dense terminal corymbi, which afterwards grow out into spikes. Their habit is something like those of a *Cheiranthus*, but the singular pod characterizes the genus as well as the species. Its form is ovato-lanceolate, with four sharp edges, but compressed so that two opposite edges are much the most prominent; their interstices are ribbed, but not (as in some species) tuberculated. Seed single. The pod or pouch falls off when ripe, leaving a singular quadrangular receptacle.

This plant abounds with alkaline salt, and has the pungent mustard flavour of its class.



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A T R I P L E X pedunculata.

*Pedunculated Sea-Orache.**P O L Y G A M I A Monoecia.*

GEN. CHAR. Hermaphr. *Cal.* 5-leaved. *Cor.* none.
Stam. 5. *Style* cloven. *Seed* 1, depressed. Female,
Cal. two-leaved. *Cor.* none. *Style* cloven. *Seed*
 1, compressed.

SPEC. CHAR. Stem herbaceous, with divaricating
 branches. Leaves lanceolate, obtuse, undivided.
 Fruit of the female flowers on footstalks.

SYN. *Atriplex pedunculata.* *Linn. Sp. Pl.* 1675.
Huds. Fl. An. 444. *Witb. Bot. Arr.* 1146.

A. marina *femine lato.* *Raii Syn.* 153.

β *A. maritima nostras, Ocymi minoris folio.* *Ibid.*

NO obscurity envelopes this species. The pedunculated fruit distinguishes it at first sight. In a young state it is known from *A. portulacoides* by being herbaceous. It grows in salt marshes near Yarmouth, and was found by Dr. Smith in 1778 on the muddy shore of the river Ouse, just below Lynn. We believe it had not been observed in England before, since the time of Sherard. The small variety β is less uncommon.

Root annual, small. Stem zigzag, angular, with many alternate spreading branches. Leaves lanceolate, somewhat elliptical, undivided and entire. Flowers spiked, small; the two kinds scarcely distinguishable till the females in ripening are exalted on long flowerstalks, and become enlarged, wedge-shaped, and compressed. The whole herb is glaucous, clothed with a scaly mealiness. It flowers in August and September.

Whatever may be thought of the greater part of exotic plants placed by Linnæus in his class *Polygamia*, the genus of *Atriplex*, having a different structure in the two flowers, shews that class to be founded in nature. It would be a curious experiment to try whether the compressed and depressed feeds are both equally fertile, and produce the same kind of plants as to habit. Similar experiments are worth making on the seeds of such Syngenesious flowers as are polygamous. Practical gardeners and country botanists have it in their power to advance science by such enquiries, whose results would be acceptable to literary societies, or authors occupied in natural history.



L'ÉPOQUE DE LA

1840-1841

L'ÉPOQUE DE LA

La première partie de ce volume est consacrée à l'étude de la situation économique et sociale de la France à l'époque de la révolution. L'auteur examine les causes de la crise financière et les réformes proposées par les révolutionnaires. Il analyse également les transformations sociales et les nouvelles idées politiques qui ont émergé à cette époque.

La seconde partie du volume traite de la révolution elle-même, de ses événements majeurs et de ses conséquences. L'auteur décrit les luttes de pouvoir entre les différents groupes révolutionnaires et les tentatives de réorganisation de l'État. Il explore également l'impact de la révolution sur la culture, la littérature et la pensée de l'époque.

LYCOPODIUM Selago.

*Fir Club-moss.*CRYPTOGAMIA *Miscellanea.*

GEN. CHAR. *Capsules* axillary, solitary, naked, kidney-shaped, of two elastic valves and one cell. *Seeds* numerous, minute.

SPEC. CHAR. Leaves scattered, in eight series. Stem forked, erect, branches equal at the top. Flowers scattered.

SYN. *Lycopodium* Selago. *Linn. Sp. Pl.* 1565.
Hudf. Fl. An. 463. *With. Bot. Arr.* v. 3. 70.
Sibth. Oxon. 265.

Selago foliis et facie *Abietis*. *Raii Syn.* 106.

S. vulgaris, *Abietis rubræ facie*. *Dill. Musc.* 435.
t. 56. *f.* 1.

THIS kind of Club-moss is by far less common than that we have already figured, *t.* 224, except about the clefts of rocks in mountainous woods, and on heaths in Wales and the north of England, where it abounds; and it has even been found on Felthorpe bogs in Norfolk, a spot rich in curious plants. It is perennial, and flowers all summer long.

Root of many strong fibres, not creeping. Stem erect, three or four inches high, forked, all the branches making a level surface at the top, a proper example of *caulis fastigiatus*. It is entirely clothed with bright-green, lanceolate, entire, pointed, concave, shining, permanent leaves, in the axillæ of which, about the uppermost branches, stand the capsules (1). Frequently the plant appears to be viviparous, bearing buds of young leaves, some of which we have represented (2), instead of capsules, an appearance which did not escape the observing Dillenius.

That the dust of the capsules of this plant is really the seeds is now certain from the experiments of Mr. Fox of Norwich, who has raised plants from it. See *Transf. of the Linn. Society*, vol. ii. 315.



THE HISTORY OF

THE

REIGN OF

CHARLES THE FIRST

BY JOHN BURNET, BISHOP OF SALISBURY.

IN TWO VOLUMES. THE FIRST CONTAINING THE HISTORY OF THE REIGN OF CHARLES THE FIRST, FROM HIS MARRIAGE TO HIS DEATH. THE SECOND CONTAINING THE HISTORY OF THE REIGN OF CHARLES THE SECOND, FROM HIS RESTORATION TO HIS DEATH.

LONDON, Printed by J. Streater, at the Sign of the Gun, in St. Dunstons Church-yard, 1680.

THE HISTORY OF THE REIGN OF CHARLES THE FIRST, FROM HIS MARRIAGE TO HIS DEATH. THE SECOND CONTAINING THE HISTORY OF THE REIGN OF CHARLES THE SECOND, FROM HIS RESTORATION TO HIS DEATH.

LYCOPODIUM alpinum.

*Alpine Club-moss.*CRYPTOGAMIA *Miscellaneæ.*

GEN. CHAR. *Capsules* axillary, solitary, naked, kidney-shaped, of two elastic valves and one cell. *Seeds* numerous, minute.

SPEC. CHAR. Leaves acute, imbricated in four rows. Shoots erect, cloven. Spikes sessile, cylindrical.

SYN. *Lycopodium alpinum.* *Linn. Sp. Pl.* 1567. *Huds. Fl. An.* 464. *With. Bot. Arr.* v. 3. 70. *Dicks. Dr. Plants,* 46.

L. Sabinæ facie. *Raii Syn.* 108. *Dill. Musc.* 445. t. 58. f. 2.

AN inhabitant of several high mountains of the north of England, Scotland and Wales, communicated to us by Mr. Robson of Darlington.

The stems are round, leafy, strong and woody, prostrate, creeping along the ground with roots at intervals like *L. clavatum*. Tufts of erect shoots, several times forked, or rather cloven, arise here and there, from one to three inches in height, their branches entirely clothed with four rows of imbricated leaves, which are lanceolate, concave, entire, smooth, beardless, and but little spreading. Some longer branches terminate in one or two short erect spikes, composed of scales somewhat membranous, ovate, pointed at each end, each of which is accompanied by a capsule like that of other species of the same genus.



E X A C U M filiforme.

*Least Gentianella.**TETRANDRIA Monogynia.*

GEN. CHAR. *Cal.* in 4 segments. *Cor.* salver-shaped, with an inflated tube. *Capf.* with 2 furrows, 2 cells, and many seeds, bursting at the top. *Stigma* capitate.

SPEC. CHAR. Leaves sessile. Stem filiform, forked. Flowers on long footstalks.

SYN. *Gentiana filiformis.* *Linn. Sp. Pl.* 335. *Huds.*

Fl. An. 103. *With. Bot. Arr.* 263. *Fl. Dan. t.* 324.

Centaureum palustre luteum minimum nostras.

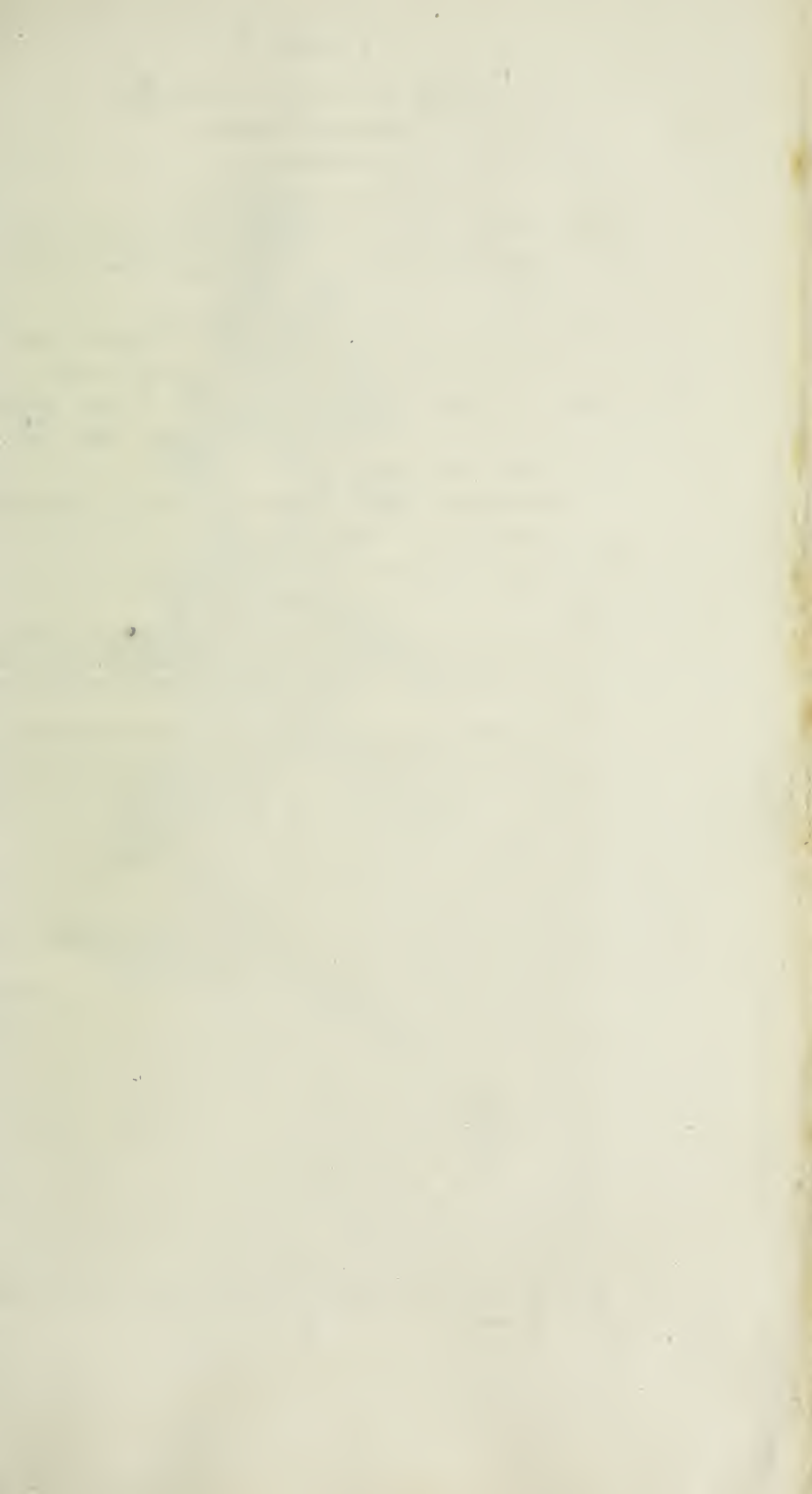
Raii Syn. 286.

THIS very uncommon and curious little flower was sent us by Dr. Pulteney from Dorsetshire, being found there, as well as in Cornwall, not very sparingly, in boggy situations. It is an annual, and flowers in July, ripening its minute seeds in August.

Root fibrous, small and whitish. Stem from two to four inches high, erect, round, slender, more or less branched in a forked manner, sometimes from the very bottom; but the lateral branches have seldom strength enough to become again forked, bearing only a pair of leaves about their middle, where the subdivision would have been. Leaves opposite, lanceolate, somewhat spatulate, entire, small, and few in number, chiefly three or four pair near the root, and one smaller pair at each subdivision of the stem. Every part of the herb is smooth. Flowers terminal, solitary, standing on long flower-stalks, which are in fact elongations of the stem or branch. Bractæe none. Calyx ovate, divided half way down into 4 sharp segments, with membranous edges. Tube of the corolla about as long as the calyx, inflated and pellucid; limb yellow, in 4 equal spreading concave segments, expanding only in bright sunshine; orifice naked, into which the 4 little short curved stamina are inserted. Germen elliptical; style about as long as the germen, slightly curved; stigma capitate, scarcely perceptibly cloven.

That this plant belongs to the genus of *Exacum*, and not to *Gentiana*, there can be no doubt. See Dr. Smith's *Icones pictæ fasc.* 3. t. 13, where the characters of *Exacum* and its allies are determined. But that genus was not known when Linnæus described the plant before us, nor had he studied the natural order to which it belongs.





GENTIANA Amarella.

Autumnal Gentian.

PENTANDRIA Digynia.

GEN. CHAR. Cor. of one petal. Capsule superior, one-celled, two-valved, with two longitudinal receptacles.

SPEC. CHAR. Corolla five cleft, salver-shaped, bearded in the orifice. Segments of the calyx equal.

SYN. Gentiana Amarella. Linn. Sp. Pl. 334. Hudf. Fl. An. 103. With. Bot. Arr. 262. Relb. Cant. 100. Sibth. Oxon. 85.

Gentianella fugax autumnalis elatior, Centaurii minoris folio. Raii Syn. 275?

β G. fugax verna seu præcox. Raii Syn. 275.

FOUND in grassy pastures above lime-stone rocks, varying in size according to the degree of moisture, and flowering in August and September—The variety β flowers from April to June.

Root annual, twisted, yellowish. Stem square, erect, bearing several pair of sessile, ovate, 3-nerved, dark-green leaves, and clothed from top to bottom with flowers, on short, axillary, forked side branches, one being terminal. Calyx pale, with green ribs, and divided half way down into 5 lanceolate, nearly equal, segments. Tube of the corolla twice as long as the calyx; limb in 5 segments, rarely but 3 or 4, horizontal when the sun shines, the orifice crowned with a purple upright fringe, which conceals the stamina. Germen oblong; styles very short; stigmas divaricated. The whole herb is intensely bitter, and possesses the stomachic virtues of its congeners.

It is extremely difficult to ascertain the 3 Gentians mentioned in Ray's Synopsis, 273. Neither he, nor his editor Dillenius, seems to have been aware of the real difference between G. Amarella and campestris, and their Synonyms are almost all quoted with hesitation. We can therefore only guess, from the slender materials before us, what they intended.—As to the *Vernal dwarf Gentian*, we quote it as a variety, having been favoured with a specimen gathered by the late accurate Sir John Cullum, on the heath between Grantham and Ancaster, in flower June 6, 1774, which he therefore reasonably presumed was the above plant of Ray. But it differs in no respect from G. Amarella, except in time of flowering. As we are on the ground of conjecture, may not such early-flowering specimens be some that happened to spring up in the preceding autumn, and stood the winter?



GENTIANA campestris.

Field Gentian.

PENTANDRIA Digynia.

GEN. CHAR. *Cor.* of one petal. *Capsule* superior, one-celled, two-valved, with two longitudinal receptacles.

SPEC. CHAR. Corolla four-cleft, bearded in the orifice. Two outer segments of the calyx very large.

SYN. *Gentiana campestris.* *Linn. Sp. Pl.* 334. *Hudj. Fl. An.* 103. *With. Bot. Arr.* 262. *Sibth. Oxon.* 86.

G. pratensis flore lanuginoso. *Raii Syn.* 275 ?

WE received this from near Bury, along with the preceding. It grows in pastures, more particularly towards the sea ; nor is it so much confined to a lime-stone soil as that species. It is annual, flowering in September and October.

This in habit is much like the last, though rather paler in colour altogether, and never so tall : the stem being less drawn up, the flowers fewer, and on longer flower-stalks, they appear more corymbose. But the essential and all-sufficient mark of distinction is in the calyx being deeply divided into 4 unequal segments, 2 of which are external, opposite, oval, very large, completely enfolding and concealing the 2 others, which are lanceolate and not a fifth part so broad. This character was noted by Linnæus in *Fl. Lapponica*, and is adopted by Haller. Surely it ought to have been mentioned in *Sp. Pl.* But it is still more wonderful that Linnæus should have doubted whether this were a sufficient distinction.

When we presume ours to be the above plant of Ray, we by no means believe it to be also that of Bauhin, which is most probably (as all authors suppose) *G. Amarella*.



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JUNCUS articulatus.

Jointed Rush.

HEXANDRIA Monogynia.

GEN. CHAR. *Cal.* of 6 leaves, *Cor.* none. *Capsule* of one or three cells.

SPEC. CHAR. Leaves with knotty joints. Flowers in small clusters, paniced.

SYN. *Juncus articulatus.* *Linn. Sp. Pl.* 465. *Huds. Fl. An.* 149. *With. Bot. Arr.* 361.

J. compressus. *Relb. Cant.* 142. *Sibth. Oxon.* 114.

J. foliis articulosis, floribus umbellatis. *Raii Syn.* 433.

VERY common in meadows and moist pastures, flowering in June, and ripening its seed in July.

The root is creeping and perennial. Stems obliquely ascending at the base, then erect, smooth like every other part, round, a foot or more in height, clothed with a few alternate, sheathing, recurved, pointed leaves; which are occasionally cylindrical or compressed, hollow, their cavity divided by numerous transverse partitions, which make the dried leaves appear jointed. Panicle terminal, forked, more or less compound, the flowers from 3 to 5 or 6 together, sessile, in little heads enveloped in membranous bractæ. Calyx-leaves (which all authors copying one another call *petals*) lanceolate, pointed, longer than the stamina. Style very short, with 3 long downy stigmata. Capsule sharply triangular, of a polished brown.

We cannot see any reason to make the upland variety of this plant (Mr. Relhan's *articulatus*) a distinct species; at least it is certain that neither the leaves being more or less compressed, nor the panicle more or less compound, are permanent marks of distinction.



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By JOHN BURNET, BISHOP OF SALISBURY.
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THE SECOND VOLUME.
 LONDON, Printed by J. Streater, at the Sign of the Gun, in St. Dunstons Church-yard, 1679.

LYCOPODIUM inundatum.

*Marſh Club-moſs.**CRYPTOGAMIA Miscellanea.*

GEN. CHAR. *Capsules* axillary, ſolitary, naked, kidney-shaped, of two elastic valves and one cell. *Seeds* numerous, minute.

SPEC. CHAR. Leaves ſcattered, entire. Spikes terminal, leafy.

SYN. *Lycopodium inundatum.* *Linn. Sp. Pl.* 1565. *Hudſ. Fl. An.* 463. *With. Bot. Arr.* v. 3. 69. *Relb. Cant.* 393.

L. paluſtre repens, clava ſingulari. *Dill. Muſc.* 457. t. 62. f. 7.

Muſcus terreſtris repens, clavis ſingularibus folioſis erectis. *Raii Syn.* 108.

ONE of our leſs common ſpecies of Club-moſs. It may however be met with on the wet part of turfy bogs, eſpecially on a ſandy bottom, as Bagſhot Heath, and St. Faith's bogs near Norwich.

The roots are perennial, and the ſtems creeping, cloſe-
preſſed againſt the ground. Leaves thickly ſet without any regular order; thoſe on the proſtrate ſtems curved upwards from the ground, pointed, entire, ſlightly concave, of a paliſh green. Short upright ſimple ſtems or branches, on which the leaves ſpread in every direction, ariſe here and there, each bearing one erect leafy ſpike of roundiſh capſules, the leaves accompanying which capſules have ſometimes a large tooth on each ſide towards their baſe.

The fruſtification may be found from the end of June to September.



ASPLENIUM lanceolatum.

*Lanceolate Spleenwort.**CRYPTOGAMIA Filices.*

GEN. CHAR. *Fruſtif.* in ſcattered lines. *Involucrum* originating laterally from a vein, and burſting inwardly.

SPEC. CHAR. Frond lanceolate, alternately doubly pinnated; leaflets obovate, deeply and ſharply crenated.

SYN. *Asplenium lanceolatum.* *Hudſ. Fl. An.* 454.
With. Bot. Arr. v. 3. 54.

THIS fern, which ſeems to have been hitherto but very little known, was diſcovered by Mr. T. F. Forſter jun. on the Great Rocks at Tunbridge Wells. Specimens of it gathered by the celebrated circumnavigators of the ſame name in the Iſland of Fayal, one of the Azores, are preſerved in Sir J. Banks's herbarium. There appears to be no doubt of its being Mr. Hudſon's *A. lanceolatum*, but we dare not adopt his uncertain ſynonym of Ray; for it does not ſeem probable that the botaniſts of that day, inattentive to the fruſtification of ferns, would have judged the plant before us to be by any means allied to *A. Adiantum-nigrum*. Neither can we aſſent to its being *A. Trichomanes-ramoſum* of Linnæus. For although no ſpecies ſo marked is in his herbarium, and therefore it cannot poſitively be determined, it appears extremely probable he meant no other than *A. viride* of Hudſon, which has ſometimes a divided ſtem; moreover our plant is in the Linnæan herbarium, in one place paſted by M. de Sauvages to *Polypodium regium*, and in another unnamed, and laid looſe into the genus *Polypodium*, to which (having never ſeen it but in an advanced ſtate of fruſtification) Linnæus would doubtleſs have referred it.

The root is crowned with tufts of long narrow black ſcales. Fronds in ſize and habit ſomewhat like *Pol. fragile*, their general outline lanceolate, their colour bright green, which is but little changed by drying. Stalk ſmooth, black below, green upwards. Pinnæ lanceolate, pinnated in their lower part, lobed above; pinnulæ and lobes obovate, veiny, ſharply crenate or toothed. Fruſtification in lines, burſting towards their neareſt nerve, but ſometimes very ſhort, and in an advanced ſtate forming roundiſh as well as oblong patches of capſules.



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M A L V A *pufilla*.*Small-flowered Mallow.**MONADELPHIA Polyandria.*GEN. CHAR. *Cal.* double; the outermost of three leaves.*Seed-cases* numerous; *seeds* solitary.

SPEC. CHAR. Stem declining. Leaves roundish-heart-shaped, slightly five-lobed. Flowers pedunculated, generally in pairs. Petals the length of the calyx.

SYN. *Malva parviflora*. *Huds. Fl. An.* 307.*M. minor*, flore parvo cæruleo. *Raii Syn.* 251.

WE have this for the *Malva parviflora* of Mr. Hudson, on the authority of a specimen communicated by that gentleman to Mr. Relhan, and said to have been gathered by himself in a wild state near Hythe in Kent. Some seeds remaining upon it being sown, vegetated, and the specimen here delineated is a regular descendant of the original plant. Specimens most precisely agreeing with it are in the Linnæan herbarium from the Upsal garden, and are incautiously marked by Linnæus *M. parviflora*, though evidently distinct from the genuine original ones so named, described in *Amæn. Acad.* v. 3. 416, and well represented by Jacquin's figure, *Hort. Vind.* t. 39. In that true *M. parviflora* the leaves are very angular, and sharply serrated; the flowers sessile (or nearly so) 3 or 4 together in axillary clusters.

There is more difficulty in distinguishing Mr. Hudson's plant (which we have named *pufilla*) from *M. rotundifolia*, to which it is most nearly allied, and future experience must shew whether they be permanently distinct or not. In leaves and stem they are much alike; but *M. pufilla* appears to have never more than two flowers from each *axilla*, instead of 4, 5, or a still greater number; and the petals scarcely exceed the calyx, instead of being more than twice as long. In the coverings of the seeds, so important in the neighbouring genus of *Geranium*, we find no difference. In both species when dry they are reticulated with transverse wrinkles.

In the *Flora Anglica* this plant is marked as biennial. We have not quoted the *Bot. Arr.* because every thing that is there said upon the subject is either taken from Mr. Hudson's account, or from the real *M. parviflora* of Linnæus.



April 1795. Published by J. G. P. Rowland, London

C A R E X Pseudo-Cyperus.

*Bastard-Cyperus Carex.**MONOECIA Triandria.*

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of one leaf. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of one leaf. *Nectary*? inflated, cloven. *Stigmas* 3. *Seed* triangular, invested with the nectary.

SPEC. CHAR. Leaves scarcely sheathing. Female catkins cylindrical, on flower-stalks, pendulous. Fruit somewhat divaricated. Nectary tapering to a beak.

SYN. *Carex Pseudo-Cyperus.* *Linn. Sp. Pl.* 1387. *Huds. Fl. An.* 410. *With. Bot. Arr.* 1045. *Relh. Cant.* 354. *Goodenough Tr. of Linn. Soc. v.* 2. 188. *Gramen cyperoides spica pendula brevior.* *Raii Syn.* 419.

THIS is not very uncommon in wet shady places, flowering in June, and may easily be distinguished from all the rest of its genus, by the large thick pendulous pedunculated female spikes or catkins, of a yellowish green, sometimes two together, but often solitary.

Root perennial, as (we believe) in every species of *Carex*. Stem with 3 acute rough cutting angles, above a foot high. Leaves embracing the stem, but with scarcely any *vagina*, long, broadish, harsh, with rough edges and nerve. Male catkin solitary, erect, with a bractea about half its length. Female catkins about four, on footstalks nearly their own length, at first erect, but very soon pendulous. Scales in both sexes awl-shaped, rough, dilated and concave at the base. Stamina short. Supposed nectary striated, compressed, with rough edges, cloven at the tip, enclosing the germen, which is small. Style simple, as long as the nectary, its 3 stigmas (white in decay) protruding beyond the orifice.

See Dr. Goodenough's excellent paper above quoted for a more ample description of this species, as well as for remarks upon the generic character of *Carex*. We only beg leave to observe, that the part we for the present, with Linnæus, call *nectary*, can on no account be denominated a capsule, being perfectly independant of the germen and style. We would wish to call it the *corolla*.



CENTAUREA solstitialis.

*St. Barnaby's Thistle.*SYNGENESIA *Polygamia frustranea.*

GEN. CHAR. *Receptacle* bristly. *Seed-down* simple.
Cor. of the radius funnel-shaped, irregular, longer
 than those of the disk.

SPEC. CHAR. Flowers solitary. Calyx doubly spi-
 nous. Stem-leaves decurrent, without spines,
 lanceolate; radical ones lyrato-pinnatifid.

SYN. *Centaurea solstitialis.* *Linn. Sp. Pl.* 1297. *Huds.*
Fl. An. 377. *Wibb. Bot. Arr.* 946. *Smith Tr. of*
Linn. Soc. v. 2. 236.

Caudus stellatus luteus foliis Cyani. *Raii Syn.* 196.
 Yellow Thistle. *Petiver Herb. Brit.* t. 21. f. 12.

DISCOVERED by Mr. Crowe in a field at Arminghall near Norwich, see *Linn. Soc. Transf.* above quoted. Upon mature consideration we have no doubt of this being the real plant of Ray and Hudson, more particularly as it is that of Petiver, who in this case is the best and oldest authority we can find. His figure is evidently *C. solstitialis* and not *melitenfis*. The plant has of late been sought in vain about Cirencester; and being so very rare a native, we now venture to present the public with a figure which, though taken from a garden specimen (Mr. Crowe's being deformed and damaged), perfectly exhibits the true habit of the species when wild.

The root is annual, whitish. Stem near two feet high, alternately branched, winged from the decurrent leaves, which are lanceolate and entire, slightly waved; the radical leaves are 4 or 5 inches long, lyrate, the lobes alternate, acute, the terminal one large, and more or less triangular. Flowers solitary at the end of each branch, bright yellow. Scales of the calyx tipped with palmated yellowish spines, of which the central one is very long, strong, and different from the rest. The whole herb is harsh and rigid, but clothed with a cotton-like web (as is the calyx), somewhat viscid and intensely bitter. It flowers about Midsummer, whence the name; but lasts till late in autumn, and in the south of Europe even till December.



April 1. 1795 D. H. Schlegel's collection

ALCHEMILLA alpina.

*Alpine Ladies Mantle.**TETRANDRIA Monogynia.*

GEN. CHAR. *Cal.* in 8 segments. *Cor.* none.
Seed 1, naked.

SPEC. CHAR. Leaves digitate, serrated.

SYN. *Alchemilla alpina.* Linn. *Sp. Pl.* 179. *Huds.*
Fl. An. 71. *With. Bot. Ar.* 162.

A. Alpina pentaphyllos. *Raii Syn.* 158.

MOST rocky mountains in the alpine parts of England and Scotland produce this elegant little plant; and in proportion to the barrenness and openness of its situation, is the rich silvery tincture of the back of its leaves more dense and splendid. It is most conspicuous when agitated by the wind; for the flowers, though they partake externally of the same silvery hue, are small and inconsiderable.

The root is perennial, strong, and deeply fixed in the clefts of rocks, chiefly preferring the micaceous kind. Leaves radical, on long slender footstalks, deeply cloven into five (rarely more) obovate serrated segments, dark green and smooth on the upper side, very silky beneath. Stalk erect, alternately branched, with a small leaf and 2 stipulæ at each subdivision. Flowers on partial slender silky flower-stalks, downy without, smooth and green within. Calyx cup-shaped, rim spreading, in 4 large segments, with 4 small intermediate, rather external, ones, opposite to which last the stamina are placed. Germen ovate, in the bottom of the calyx, which invests also the ripe seed. Style from the base of the germen, evincing its affinity to *Potentilla*, *Fragaria*, &c. which its habit and astringent qualities confirm. The flowers appear in July.



April 1795 Del. lith. by J. Goussier in London.

L I C H E N geographicus.

Map Lichen.

C R Y P T O G A M I A *Alga.*

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

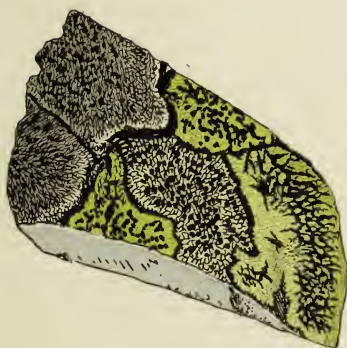
SPEC. CHAR. Crustaceous, smooth, yellow with a black margin. Tubercles black, flat and irregular, imbedded in the crust.

SYN. Lichen geographicus. *Linn. Sp. Pl.* 1607.
Huds. Fl. An. 523. *Wub. Bot. Arr.* v. 3. 168.

Lichenoides nigro-flavum, tabulæ geographicae instar pictum. *Dill. Musc.* 126. t. 18. f. 5.

THIS pretty and singular production, which many a heedless eye passes by in its natural place of growth, but which, when presented to their notice, the most incurious persons cannot help admiring, is found in elevated mountainous situations on the harder kinds of rocks, which it covers in large patches of a hard smooth inseparable crust, of a bright yellow or greenish colour. The black undulating margin is so extremely thin, as to look like a mere stain on the stone; but when two plants of this Lichen meet, they crowd one another's margins into a narrower line, and sometimes obliterate them, the yellow part of the crust rising above them. This crust is full of cracks, especially in dry weather, like the mud of a pond when dried up, and the whole is interspersed with small, unequal and irregular, black, opaque, angular, slightly concave tubercles or shields, exactly on a level with the crust in which they are imbedded. Hence the appearance of the whole gives some idea of a map, sprinkled with towns, and intersected with rivers and boundaries of countries. We believe this species is never found on lime stone. It is very doubtful whether *L. atro-virens* be specifically distinct from this.

The yellow of the crust is sometimes changed, by age or accident, to a grey, in which state it might be taken for another species.



L I C H E N concentricus.

Concentric Lichen.

C R Y P T O G A M I A Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

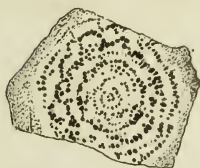
SPEC. CHAR. Crustaceous, whitish. Shields black, confluent, in concentric circles, imbedded in the crust.

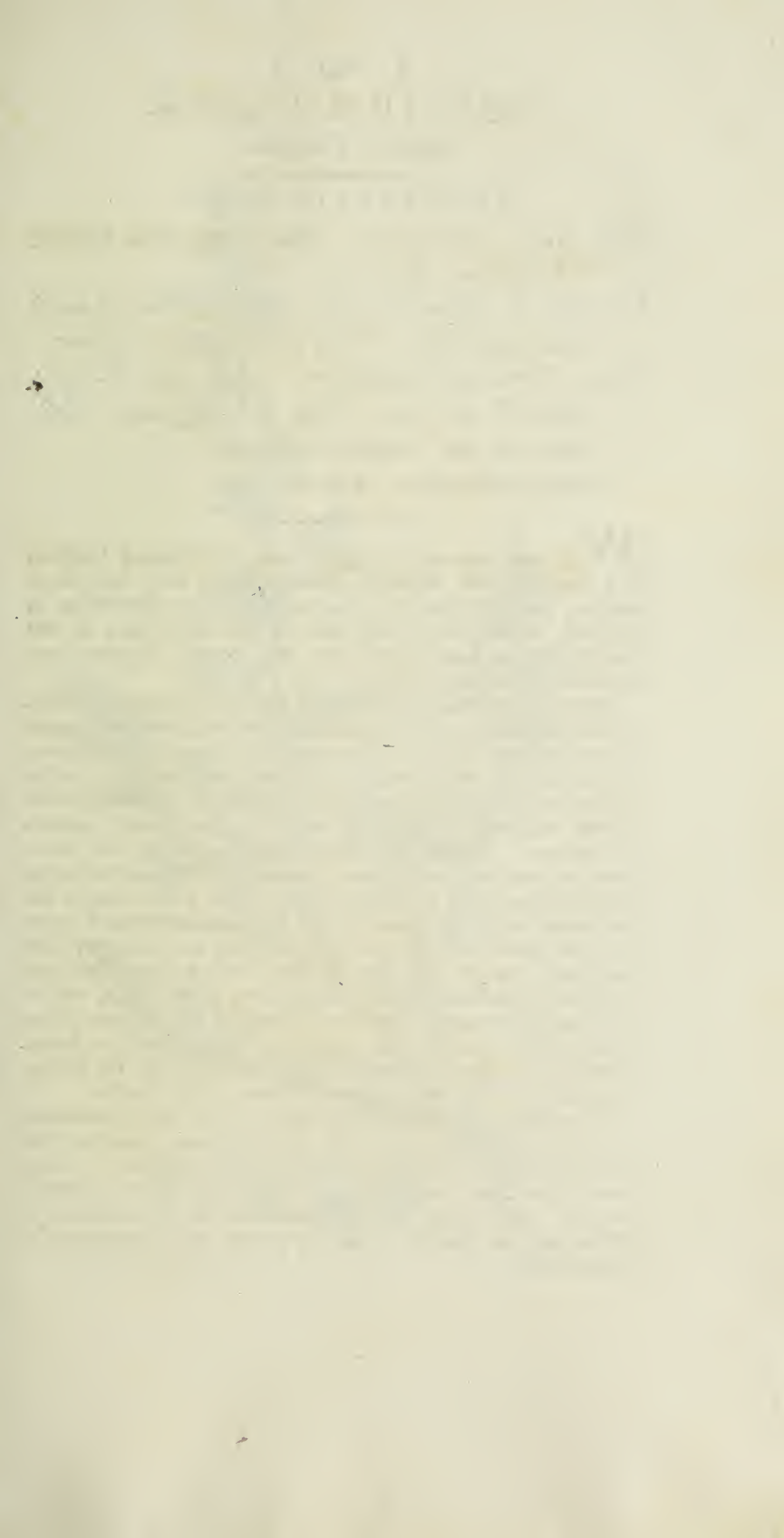
SYN. Lichen concentricus. *Davies, Tr. of Linn. Soc. v. 2. 284.*

L. petræus. Jacq. Coll. v. 3. 116. t. 6. f. 2, a. a. a.

FOUND on rocks of whin-stone in the parish of Whitford, Flintshire, by the Rev. Mr. Hugh Davies, F. L. S. The crust is somewhat mealy, very thin, of a greyish white. The shields scarcely rise above its level, and are remarkable for being arranged in concentric lines, sometimes forming several very regular circles, one within another, with a few dispersed shields between. The shields are small, black, opaque, concave, with a margin generally white, particularly in the young ones. Their outline is seldom quite circular, especially as they are mostly crowded together in lines, so as to force one another into an angular shape, and to become in a manner confluent.

That this is the plant of Wulfen, published by Jacquin in his *Colleetanea* above quoted, there can be no doubt, as the description and figures exactly agree with ours. With respect to the synonyms, which made Mr. Davies uncertain about it, they are unquestionably wrong, as the synonyms of Wulfen (otherwise an excellent botanist) too often are. The name *concentricus* is so very apt and so strikingly characteristic, we could not hesitate about preferring it to the unmeaning one of *petræus*.





T H E S I U M *linophyllum*.*Bastard Toad-flax.**PENTANDRIA Monogynia.*

GEN. CHAR. *Cor.* none. *Cal.* of one leaf, bearing the stamina. *Seed* one.

SPEC. CHAR. Spike branched. Bractææ ternate. Leaves linear-lanceolate. Tube of the calyx very short.

SYN. *Thesium Linophyllum*. *Linn. Sp. Pl.* 301.

Huds. Fl. An. 101. *With. Bot. Arr.* 247. *Reib.*

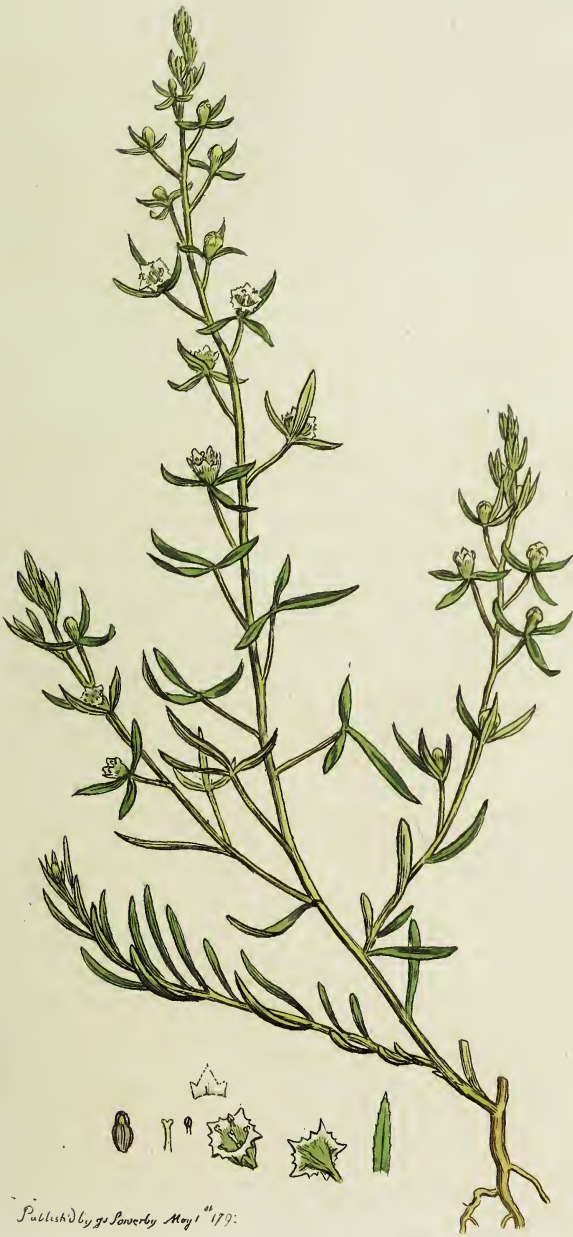
Cant. 99. *tab.* *Sibth. Oxon.* 414.

Linaria adulterina. *Raii Syn.* 202.

WE have received this plant from Sir Thomas Cullum, and the Rev. Mr. Hemsted, gathered near Bury and Newmarket, and also from the Lime-kiln hill, near Shouldham in Norfolk, where (for the first time, to our knowledge, in that county) it was found by the Rev. Mr. Forby. It grows on a chalk soil, flowering in July.

Root woody, branched, crooked, whitish, perennial. Stems several, reclining, 5 or 6 inches high, but little branched, angular and striated, clothed with numerous alternate linear leaves, all pointing one way, somewhat glaucous and succulent, entire. The whole herb is destitute of pubescence, but the edges of the leaves, bractææ, and angles of the stem appear rough under a microscope. Flowers in spikes (mostly branched, and sometimes so compound as to form a panicle), solitary, on alternate flower-stalks, with 3 bractææ close to each flower shaped like the leaves, but in the lower part of the spike one is much larger than the other two. Calyx funnel-shaped, the tube very short and open, margin spreading, 5-lobed; lobes triangular, with a tooth on each side near the base, very white above, and at the margin beneath. Stamina 5, opposite to the calyx-lobes. Style erect, equal to the stamina. Stigma with 2 knobs. Seed oval, 5-angled, striated, hard, invested with the permanent calyx. The herb is scarcely bitter, a little saltish.

This without doubt is *T. Linophyllum*, but when cultivated, as Linnæus had it, the whole herb becomes luxuriant, the spike paniced and leafy, according to his definition. *T. alpinum* differs from this in having a long tubular calyx; otherwise they are much alike. The intermediate kind, mentioned in Withering, we believe to be the proper wild appearance of *Linophyllum*.



Published by G. Sowerby May 1st 1799.

LEPIDIUM didymum.

*Procumbent Pepper-wort.*TETRADYNAMIA *Siliculosa.*

GEN. CHAR. *Pouch* notched, with many seeds : valves keeled, but not margined : partition contrary to them.

SPEC. CHAR. Stem procumbent, hairy. Leaves pinnatifid. Fruit didymous.

SYN. *Lepidium didymum.* Linn. *Mant.* 92. *Dicks. Dr. Plants* 11. *With. Bot. Arr.* 671.

L. anglicum. *Huds. Fl. An.* 280.

GATHERED by John Adams, Esq. at Dale, a village near the entrance of Milford Haven. Mr. Hudson mentions this species (which escaped Ray and Dillenius) as a native of Devonshire and Cornwall among rubbish. It is an annual, flowering in July, and is in a manner naturalized in Chelsea garden. Our figure, however, has been drawn from real wild specimens, like all the rest in this work when we do not expressly mention the contrary ; for we do not approve of imposing *cultivated* specimens upon the public for *wild* ones, which “ in similar works (according to Mr. Curtis’s just observation, *Bot. Mag.* 154.) every plant is expected to be.”

The roots of *Lepidium didymum* are small and fibrous. Stems procumbent (which Linnæus, having it only in a dried state, did not know), roundish, pilose, alternately branched, leafy. Leaves alternate, smooth, pinnatifid, the lobes notched, especially on the foreside. Spikes generally opposite to the leaves, many-flowered, and soon lengthened out into racemi. Flowers very small, with 2 or 4 Stamina, scarcely more. Pouch very distinctly two-lobed, rugged, and much resembling that of *Cochlearia Coronopus*, to which this plant is very nearly related as to generic character ; and indeed Linnæus says, it is an intermediate species between the two genera. *Mant.* 92.



C O R N U S fanguinea,

Wild Cornel tree, or Dog-wood.

TETRANDRIA Monogynia.

GEN. CHAR. *Cal.* of 4 teeth. *Petals* four. *Drupa* inferior. *Nut* of two cells.

SPEC. CHAR. Branches straight. Leaves ovate, green on both sides. Cymes without involucra.

SYN. *Cornus fanguinea.* *Linn. Sp. Pl.* 171. *Hudj. Fl. An.* 70. *Wieb. Bot. Arr.* 160. *Relb. Cant.* 68. *Sibth. Oxon.* 61. *L'Herit. Corn.* 5.

C. foemina. *Raii Syn.* 460.

COMMON every where in hedges, yet most plentiful on a chalk or lime-stone soil. It flowers in June, and the berries ripen in August.

This shrub grows to the height of 4 or 5 feet; its wood is hard and even, fit for the use of turners, the bark smooth and of a dark red, except on the very youngest branches. Leaves opposite, ovate, entire, strongly nerved, green (not silky) beneath, entirely red before they fall, as in many American shrubs, to which country the genus of *Cornus* (though not this species) mostly belongs. Cymes terminal, flattish, of many greenish-white flowers, with an unpleasant smell. Petals revolute in the margin. Germen crowned with a glandular ring, into which the petals and stamina are inserted. Stigma obtuse. Berries dark purple, very bitter, as is the whole plant. It is said oil for lamps may be procured from them if boiled in water and pressed. See Ray's Synopsis 460.



May 11, 1795. Pillerchdy for Lowry London.

R H A M N U S Frangula.

*Berry-bearing Alder.**PENTANDRIA Monogynia.*

GEN. CHAR. *Cal*, tubular. *Petals* 5, opposite to the stamina. *Berry* with few seeds.

SPEC. CHAR. Spines none. Flowers hermaphrodite. Leaves smooth, entire. Seeds two.

SYN. *Rhamnus Frangula*. *Linn. Sp. Pl.* 280. *Huds. Fl. An.* 98. *With. Bot. Arr.* 240. *Relb. Cant.* 96.

Frangula, seu *Alnus nigra baccifera*. *Raii Syn.* 465.

THIS shrub occurs in woods and thickets occasionally in various parts of England, whether in Scotland or not is doubtful. It flowers early in May. The berries are ripe in July.

The stem grows 3 or 4 feet high, with numerous forked branches. Leaves on the young ones only, opposite, obovate, pointed, entire, veiny, of a bright pleasant green. Flowers from the bosoms of the leaves, 2 or 3 together, on simple flower-stalks, greenish, small. Calyx cup-shaped, with 5 reflexed segments, between which stand the little petals, and opposite to them the very minute stamina, with dark purple antheræ. Germen superior, with a very short style. Berry dark purple, with 2 hemispherical seeds.

According to the Dispensatory these berries are sometimes mixed with those of Buckthorn (*Rhamnus catharticus*), or substituted for them, as are even those of the Cornel-tree figured on the last plate. In the latter instance the deception would probably be greater than in the former, for both these *Rhamni* are nearly alike purgative. The work just quoted adds very properly, that these fruits are easily distinguished, by the Buckthorn having 4 seeds, *R. Frangula* 2, and the *Cornus* but 1, or rather 1 nut enclosing 2 kernels.



May 1st 1793 *Pistia* D. G. f. *foventy* London

R I C C I A fluitans.

Floating branched Riccia.

CRYPTOGAMIA *Alga.*

GEN. CHAR. *Cal.* and *Cor.* none. *Anthera* cylindrical, sessile upon the *germen*, and perforated by the *style*. *Capsule* globose, crowned with the withered *anthera*. *Seeds* hemispherical, on foot-stalks.

SPEC. CHAR. Frond repeatedly forked, in linear segments.

SYN. *Riccia fluitans*. *Linn. Sp. Pl.* 1606. *Huds. Fl. An.* 522. *With. Bot. Arr.* v. 3. 162.

Ulva palustris furcata, angustioribus & firmioribus segmentis. *Raii Syn.* 63.

Lichenastrum aquaticum fluitans, tenuifolium, furcatum. *Dill. Musc.* 514. t. 74. f. 47.

THE fronds float in little patches among duck-weed, and other such plants, on the surface of ponds and ditches, emitting a few short roots from the under side. Each frond is forked or branched in an alternate manner several times, its margin entire, substance pellucid, but not membranous, the tips blunt, often bifid, with little darkish spots near the extremity (see our magnified figure), which we dare not assert to be the seed-vessels, nor has any botanist yet seen the fructification in any shape. There being so little hope of discovering it must be our apology for exhibiting the plant without, more especially as it is a vegetable very little known, and which we beg leave to recommend to the examination of the curious.

Mr. Robert Teesdale, F. L. S. sent these specimens from near Beverley in Yorkshire.



R I C C I A natans.

Fringed Riccia.

C R Y P T O G A M I A *Algae.*

GEN. CHAR. *Cal.* and *Cor.* none. *Anthera* cylindrical, sessile upon the *germen*, and perforated by the *style*. *Capsule* globose, crowned with the withered *anthera*. *Seeds* hemispherical, on foot stalks.

SPEC. CHAR. Fronds inversely heart-shaped, ciliated.

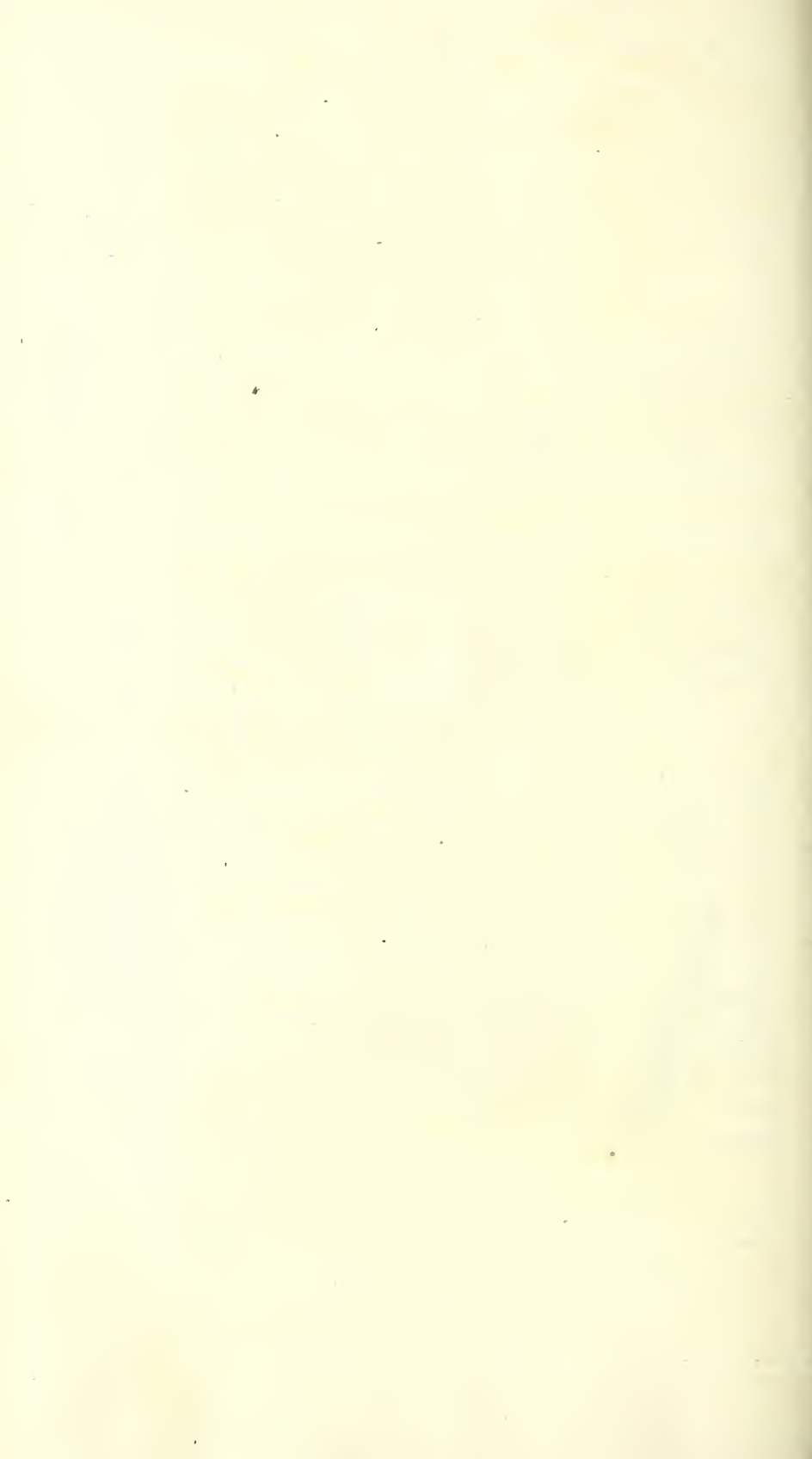
SYN. *Riccia natans.* *Linn. Syst. Nat. ed. 12. v. 2. 708.* *Huds. Fl. An. 522.* *With. Bot. Arr. v. 3. 162.* *Relb. Cant. Suppl. 3. 11.*

Lichen parvus vernus cordiformis, ima parte fibratus, Lentis palustris modo aquæ innatans.
Raii Syn. 116. *Dill. Musc. 536. t. 78. f. 18.*

GATHERED in ponds near Beverley, and sent with the last, by Mr. Teesdale. This is an extremely rare species. It was observed by Buddle formerly in ponds near Hadleigh (not Henley) in Suffolk (*Raii Syn.*), and has since been found by Mr. Relhan near Cambridge, and the Rev. Mr. Bryant, near Heydon in Norfolk. Its fructification is unknown, but from the habit there can be little doubt about the genus.

The fronds float like duck-weed, and are in perfection in autumn. Each is cordate, more or less deeply lobed, scarcely the diameter of a split pea. Their upper surface is minutely scaly, their margin fringed, but the numerous lanceolate serrated scales of the under side extend far beyond the fringe. We have delineated it of the natural size as well as magnified. Dillenius's figure is a very poor one.







UTRICULARIA vulgaris.

*Greater Hooded-Milfoil.**DIANDRIA Monogynia.*

GEN. CHAR. *Cal.* of two equal leaves. *Cor.* ringent, spurred. *Capsule* of one cell.

SPEC. CHAR. Nectary conical. Stalk with few flowers.

SYN. *Utricularia vulgaris.* Linn. *Sp. Pl.* 26. Hudf.

Fl. An. 8. *With. Bot. Arr.* 18. *Relb. Cant.* 9.

Sibth. Oxen. 7.

Lentibularia. *Raii Syn.* * 286.

EVEN this species of *Utricularia* is not extremely common, though more so than the following. It is perfectly an aquatic; nor can it possibly grow out of the water, occurring only in stagnant ditches and pools, and flowering after Midsummer.

The fibrous floating roots, slightly attached to the mud, are supposed to be perennial. The stem likewise floats horizontally under water, alternately divided into capillary branches, with bristly leaves bearing little compressed curved bladders, open and bearded at the tip, containing a bubble of air, and a drop of watery fluid, in which, when highly magnified, Dr. Withering observed a quantity of extremely minute solid particles. Aquatic insects frequently take up their lodging in these bladders. The stalk only rises erect a few inches above the water, and is rendered conspicuous by its spike of large handsome alternate flowers, whose flower-stalks and calyx are reddish or purple, the corolla of one irregular labiate petal, the spur conical and recurved, the mouth closed, palate prominent, of an orange colour. Stamina thick and short. Germen superior, style short; stigma concave and bearded. See Dr. Withering's excellent description.

We cannot positively determine to which of the varieties mentioned by Linnæus (*Fl. Suec.* & *Sp. Pl.*) our plant belongs; nor can we learn that any other form of *U. vulgaris* than that here represented has been found in Britain.

UTRICULARIA minor.

Lesser Hooded-Milfoil.

DIANDRIA Monogynia.

GEN. CHAR. *Cal.* of two equal leaves. *Cor.* ringent, spurred. *Capsule* of one cell.

SPEC. CHAR. Nectary keel-shaped.

SYN. *Utricularia minor.* *Linn. Sp. Pl.* 26. *Huds. Fl.*

An. 9. *With. Bot. Arr.* 19. *Relb. Cant.* 9.

Lentibularia minor. *Raii Syn.* * 285.

BY far less frequent than the last. The Rev. Mr. Hemsted sent it from the neighbourhood of Fordham Moor Cambridge-shire. It also grows on some moors to the north of Norwich, intermixed with *U. vulgaris*, and flowering at the same time. The two species also agree in habit and structure, the *minor* being only about half the size of the other, with paler, and generally fewer, flowers. The essential difference consists in the species now before us having a short blunt nectary, which projects so little, compared with the other, that Linnæus calls it only carinated, not conical. The palate too is not so prominent as to close the orifice of the corolla.

Linnæus's description in *Fl. Suec.* is worthy of him, but we rather wonder at his calling the corolla *dipetalous*, however deeply divided.



TRIGLOCHIN maritimum.

Sea Arrow-Grass.

HEXANDRIA Trigynia.

GEN. CHAR. *Cal.* three-leaved. *Petals* 3, like the calyx. *Style* none. *Capfule* bursting at the base.

SPEC. CHAR. *Capfules* ovate, of fix cells.

SYN. *Triglochin maritimum.* *Linn. Sp. Pl.* 483.

Huds. Fl. An. 152. *With. Bot. Arr.* 378.

Gramen marinum spicatum. *Raii Syn.* 435.

G. spicatum alterum. *Ger. em.* 20.

COMMON in salt marshes, and muddy shores of large rivers where the salt tide comes, as about the Thames near Rochester, &c.

The root is strong, woody and perennial, with long straight fibres. Leaves rushy, semicylindrical, fleshy, with an involute intrafoliaceous membranous stipula. Stalk solitary, scarcely longer than the leaves, inclining at the base, terminating in a simple dense spike of numerous greenish-purple flowers, on short flower-stalks, not all leaning one way as in the figure in Gerarde. The 6 antheræ are almost sessile, and very large before they burst. Germen with 6 furrows, changing to a capsule of the same shape and same number of cells, the more common fresh-water *Triglochin* having but three.

This species flowers throughout the summer. From the observation of Linnæus, that all domestic cattle are very fond of it, Dr. Stokes justly recommends it to the notice of those who possess salt marshes.



Junca acutiflora (L.) Gaertn. f. *Junca acutiflora* L.

EUPHORBIA amygdaloides.

Wood-Spurge.

DODECANDRIA Trigynia.

GEN. CHAR. *Cor.* of 3 or 4 petals, standing on the calyx. *Cal.* of one leaf, inflated. *Capf.* three-lobed.

SPEC. CHAR. Flower-stalks scattered and umbellate, cloven. Involucra perfoliate, orbicular. Leaves obtuse.

SYN. *Euphorbia amygdaloides.* *Linn. Sp. Pl.* 662.
Huds. Fl. An. 210. *With. Bot. Arr.* 499. *Relb. Cant.* 186. *Sibth. Oxon.* 152.

Tithymalus characias amygdaloides. *Raii Syn.* 312.

THIS is found in woods, groves and thickets, frequently and plentifully, more especially in a clay soil. It begins to flower in March, and continues some time. The leaves are almost ever-green, though of a soft delicate texture, and the whole plant is of an elegant habit and appearance, somewhat shrubby.

Root perennial. Stems several, 2 feet high, simple, curved, round, fleshy, downy, often red; naked below, leafy above. Leaves alternate, thick-set, spreading, obovato-lanceolate, entire, blunt, downy, paler beneath. Flowers small, yellow, on forked flower-stalks, of which the lower ones are axillary (the leaves which accompany them being more or less coloured, serrated, and resembling *bractææ*), the uppermost about 5 together in a terminal umbel. The *antheræ* are formed of two singular wedge-shaped lobes. Every part abounds with acrid milk. There is a variegated variety kept in green-houses.



L I C H E N plicatus.

Stringy Lichen.

CRYPTOGAMIA *Alga.*

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

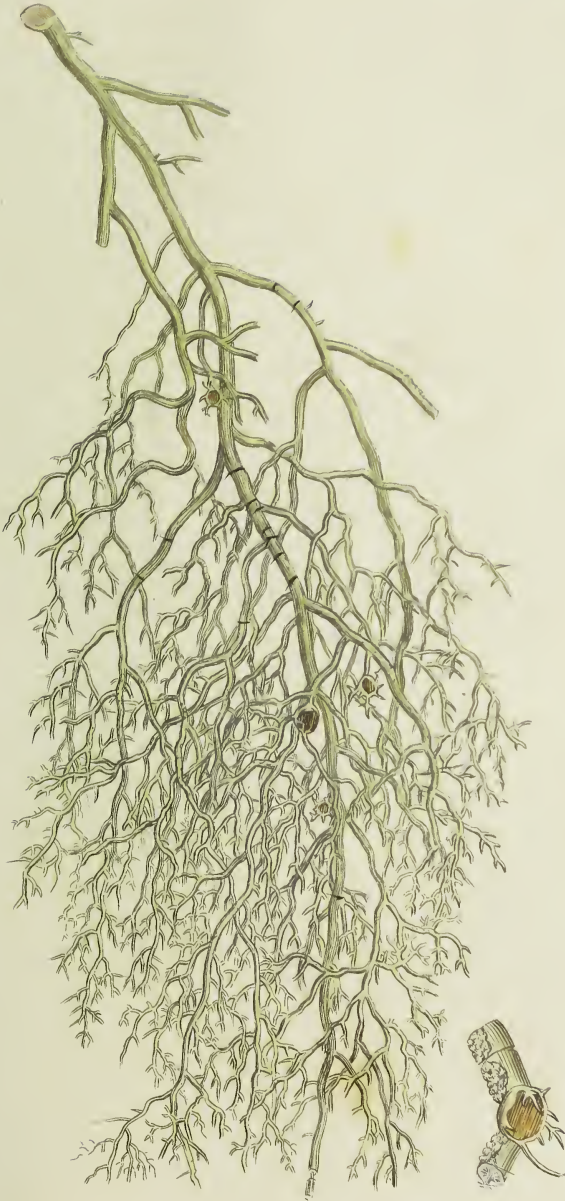
SPEC. CHAR. Filamentous, pendulous; the branches entangled. Shields radiated.

SYN. Lichen plicatus. *Linn. Sp. Pl.* 1622. *Huds. Fl. An.* 560. *Willd. Bot. Arr. V.* 3. 222. *Reib. Cant.* 441. *Lightf. Scot.* 889.Muscus arboreus, Usnea Offic. *Raii Syn.* 64.Usnea vulgaris, loris longis implexis. *Dill. Musc.* 56. *t.* 11, *f.* 1.

RARELY found hanging from the branches of old trees in dark shady woods, in Scotland as well as England. Dr. Pulteney communicated it from Dorsetshire.

The whole plant is from one to two feet, or even more, in length, forming a thick entangled mass of branching fibres, which are cylindrical, all more or less divaricated and undulated, none of them straight. They are of an uniform greenish free-stone colour; the surface very smooth at first, but in the older parts rough with minute warts, supposed to be the male flowers. The main stems often crack here and there, discovering in the interstices a very tough white central fibre which pervades the whole plant. The shields are now and then to be found about the divarications of the principal branches, and nearly of the same colour; their margins radiated with rigid pointed fibres.

This moss, formerly used as a styptic, has long since given way to more active medicines.



June 1st 1795 Published by J^o Foully London

L I C H E N articulatus.

*Jointed Lichen.*CRYPTOGAMIA *Algæ.*

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Filamentous, pendulous, cracked and tumid. Tubercles, flesh-coloured, rugged.

SYN. Lichen articulatus. *Linn. Sp. Pl.* 1623. *Huds. Fl. An.* 561. *With. Bot. Arr. V.* 3. 219. *Sibth. Oxon.* 335.

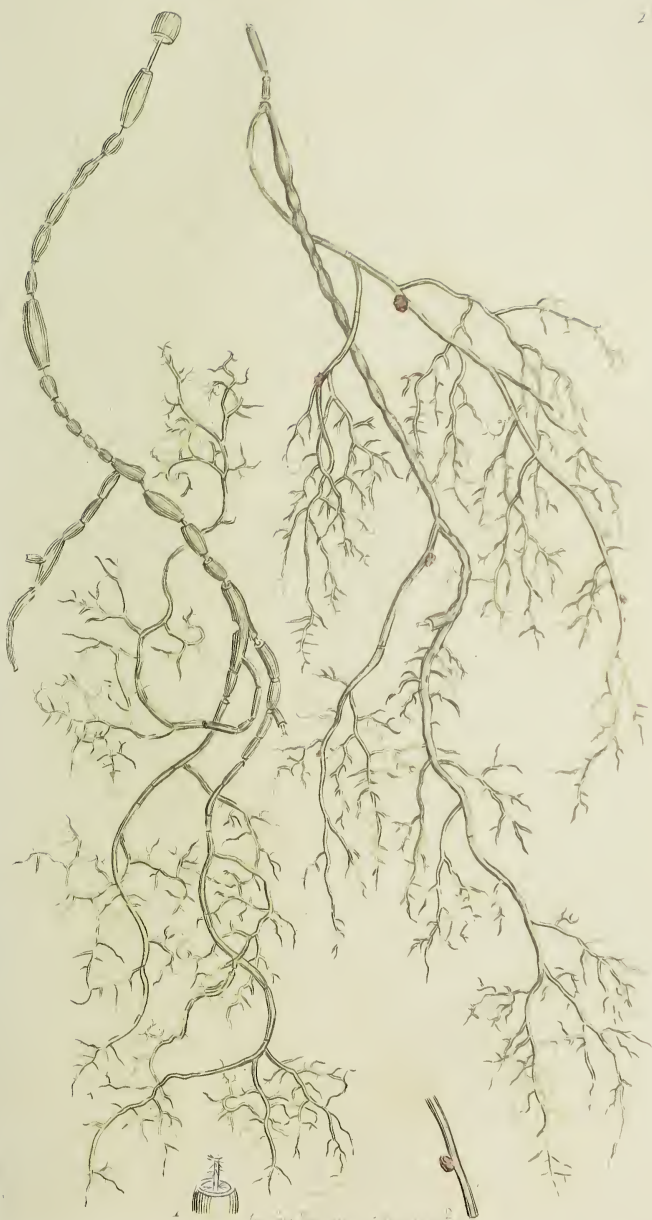
Muscus arboreus nodosus. Raii Syn. 65.

Ufnea capillacea & nodosa. Dill. Musc. 60. t. 11. f. 4.

β. Lichen barbatus. *Linn. Sp. Pl.* 1622. *Huds. Fl. An.* 561. *With. Bot. Arr. V.* 3. 220. *Lightf. Scot.* 890.

Ufnea barbata, loris tenuibus fibrosis. Dill. Musc. 63. t. 12. f. 6.

SENT by Dr. Pulteney from Dorsetshire with the last. We do not hesitate to make the *L. articulatus* fig. 1, and *barbatus* fig. 2, one species, the propriety of which was first hinted by Mr. Lightfoot in *Flo. Scot.*, and we have adopted the same opinion from having also examined the specimens of Dillenius, which in this case are the original authority. Both are found hanging upon trees in old woods in England and Scotland. The *barbatus*, which is the least uncommon of the two, is less tumid, and not always so full of transverse cracks as the *articulatus*. The latter has never yet been found in fructification with us, but in the south of Europe it bears precisely the same tubercles as *barbatus*, (see *Smith's Tour V.* 1. 312 and 336), which are small, very convex, rugged, and of a pale flesh-colour. By these tubercles, and the swellings of the stem, (the interfices of which are most generally cracked, and discover the central fibre, as in *L. plicatus*) the species before us, and its variety, may be easily known from all others of the same tribe.





GERANIUM columbinum.

Long-stalked Cranebill.

MONADELPHIA Decandria.

GEN. CHAR. *Style* one. *Cor.* of 5 petals, regular. *Nectary* 5 glands at the base of the longer stamina. *Fruit* beaked, separating into 5 cafes, each tipped with a long simple naked awn.

SPEC. CHAR. Stalks two-flowered, longer than the leaves; which are five-cleft and divided into many acute segments. Seed-cafes smooth. Calyx awned.

SYN. *Geranium columbinum.* Linn. *Sp. Pl.* 956. *Hudf. Fl. An.* 304. *Witb. Bot. Arr.* 731. *Sibth. Oxon.* 214.

G. columbinum dissectis foliis, pediculis florum longissimis. Raii *Syn.* 359.

GATHERED wild near Bird-brook, Effex, by Thomas Walford Esq. This is generally supposed to be a rare species, but we have observed it in various parts of Norfolk and Yorkshire, as well as about Bristol, always in a gravelly or calcareous soil, and never in any great quantity at once. It is an annual, flowering in June and July.

The whole herb is slender, mostly procumbent, clothed with small rigid close-pressed hairs, those on the stem and stalks pointing downwards, the rest upwards. Segments of the leaves linear. The long flower-stalks distinguish this species, and the calyx is five-angled, and tipped with very evident awns. Flowers of a delicate pale purple. Antheræ blue. Cafes of the seeds smooth, slightly keeled. Seed covered with minute punctures, as in *G. rotundifolium*.

In this genus the direction of the pubescence will be found useful in discriminating some species, as well as the seeds and their covers.



ANTIRRHINUM *Linaria*, var. *Peloria*.
Deformed Yellow Toad-flax.

DIDYNAMIA Angiospermia.

GEN. CHAR. *Cal.* five-leaved. *Cor.* with a prominence at its base pointing downwards and bearing honey. *Caps.* two-celled.

SPEC. CHAR. Leaves linear-lanceolate, crowded. Stem erect. Spikes terminal. Flowers imbricated. Calyx smooth.

β Flowers regular, with 5 equal stamina and 5 nectaries.

SYN. *Antirrhinum Linaria*, *Peloria*. *Linn. Sp. Pl.* 859. *Huds. Fl. An.* 273. *With. Bot. Arr.* 648. *Curt. Fl. Lond. fasc.* 6.

WE received a living specimen of this singular variety or monstrosity from the garden of Mr. Ordoyno at Newark, who obtained the root wild from a wood in Lincolnshire. Mr. Curtis had it from the same source, and informs us it increases much by root, and sometimes bears seeds. Whether the plants which they produce likewise bear monstrous flowers, is as yet unknown, but it is probable they would not, varieties of structure being far less frequently propagated by seed than varieties of colour. All ideas of this being a mule production, much less a distinct genus, are now exploded. Dr. Smith and others have observed the same transformation in many British and exotic species of *Antirrhinum*, with naturally shaped flowers from the very same root, and *Bignonia radicans* sometimes varies with a regular corolla and 5 equal stamina. We have mentioned, p. 207, a similar very curious monstrosity in *Galopsis Tetrahit*.

Every part of the plant before us agrees exactly with the common *A. Linaria*, except the corolla and stamina. Root creeping, whitish. Stems erect, round, 2 feet or more in height. Leaves linear, smooth, somewhat glaucous, thickly set along the stem. Spikes terminating the stem and branches; of numerous flowers, with a lanceolate bractea to each. Calyx smooth. But instead of the natural ringent corolla with one spur, the flower is tubular, with 5 spurs at the base, and the orifice closed and pursed up, with a reflexed five-cleft margin. Stamina 5, equal, attached to the corolla, and alternate with its spurs. Germen and style in the natural state. It flowers in June and July.



A T R I P L E X portulacoides.

*Skrubby Orache, or Sea Purslane.**POLYGAMIA Monœcia.*

GEN. CHAR. Hermaphr. Cal. 5-leaved. Cor. none.
Stam. 5. *Style* cloven. *Seed* 1, depressed.

Fem. Cal. 2-leaved. Cor. none. *Style* cloven.
Seed 1, compressed.

SPEC. CHAR. Stem shrubby. Leaves obovate.

SYN. *Atriplex portulacoides.* Linn. *Sp. Pl.* 1493.
Huds. Fl. An. 442. *With. Bot. Arr.* 1143. *Relb.*
Cant. 378.

A. maritima fruticosa, Halimus et Portulaca
marina dicta, angustifolia. Raii Syn. 153.

ABUNDANT on the sea shore in a clay soil, flowering in the latter part of summer.

The roots are long, woody, creeping and perennial. Stems shrubby, branched, spreading, about 1 or 2 feet high, round below, quadrangular above, clothed with opposite entire leaves, which vary in shape, being occasionally obovate or lanceolate. Dense clusters of flowers in compound spikes terminate the stem and branches, and the lowermost spikes generally arise from the bosoms of 2 or 3 alternate leaves. One kind of flowers have yellowish antheræ, and a green regular 5-cleft calyx, turning yellow in decay; we have not observed any germen or style in these. The other kind are female, with 2 red downy stigmas, and a calyx of 2 equal valves. It is possible that hermaphrodite flowers may be occasionally intermixed.

The whole plant is of a silvery glaucous hue, not inelegant. The leaves when dry are finely dotted beneath. The juices abound with alkaline salt.



THALICTRUM alpinum.

*Alpine Meadow-rue.**POLYANDRIA Polygynia.*

GEN. CHAR. *Cal.* none. *Petals* 4 or 5. *Seeds* naked and beardless.

SPEC. CHAR. Stem perfectly simple and almost naked, terminated by a simple racemus.

SYN. *Thalictrum alpinum.* *Linn. Sp. Pl.* 767. *Huds. Fl. An.* 238. *With. Bot. Arr.* 569. *Lightf. Scot.* 286. *t.* 13. *f.* 1.

T. minimum montanum atro-rubens foliis splendentibus. *Raii Syn.* 204.

THIS truly alpine plant grows in wet black mould in the clefts of rocks, or on the spongy margins of little rills about the highest summits of the mountains of Wales and Scotland, nor is it rare in such situations. As however we could have little hopes of procuring it fresh from thence, we have delineated it from a perfect garden specimen sent by R. A. Salisbury Esq. which, being compared with wild ones, shews this species to be very little altered by culture. It is perennial, and flowers early in summer.

The root consists of a few simple fibres, and creeps just below the surface by horizontal runners. Radical leaves on long purplish footstalks, first ternate, then either again ternate or pinnate; the leaflets roundish or wedge-shaped, varying much in breadth, with several blunt notches or lobes, of a shining green above, glaucous beneath, often purplish, smooth, veiny, a little revolute. Stem simple, erect, round, about twice as long as the leaves, glaucous or purplish, smooth, with one leaf (more or less compound) about the middle. The racemus or spike (though the former term is rather more proper than the latter, as the lowermost flowers remain in perfection till all the rest are expanded) is very simple, at first drooping, then erect, of 8 or 10 alternate flowers, each on a slender stalk subtended by a simple bractea, of which some of the lowermost approach to the texture and colour of the leaves, the rest being membranous. Petals 4, acute, white or purple. Stamina about 8 or 10, capillary, often purplish, with oblong vertical antheræ. Germens 2 or 4, roundish, green, each with a whitish, lanceolate, divaricated, downy style. From this description it appears we have found a smaller number of stamina and styles (in several specimens that have come under our examination) than Linnæus describes in *Sp. Pl.*



U L V A diaphana.

Pellucid Laver.

CRYPTOGAMIA Alga.

GEN. CHAR. *Fron*d membranous or gelatinous, with the *seeds* scattered through its substance. *Woodward*.

SPEC. CHAR. Gelatinous, pale yellowish, pellucid, somewhat cylindrical, with numerous branches of various sizes.

SYN. *Ulva diaphana*. *Huds. Fl. An.* 570. *With. Bot. Arr.* v. 3. 232.

Alcyonium gelatinosum. *Linn. Syst. Nat.* v. 1. 1295.

Fucus spongiosus nodosus. *Raii Syn.* 49.

THIS singular production occurs now and then on the sea coast in various places. Our figure was communicated by Mr. Woodward from a drawing by the son of Dr. Withering. The main stem, various in height, is seldom divided, but throws out many thick-set branches, which are also very various in length, sometimes notched and divided, at other times simple and entire. Every part is excessively fleshy and juicy, the surface smooth, the colour varying from a very pale brown, almost like that of wet sea-sand, to a clear yellow; in the latter case the plant has exactly the appearance of the substance called barley sugar (a corruption, we presume, of *sucre brûlé*) of the paler kind. The whole substance abounds with innumerable minute seeds.



HYPNUM adiantoides.

Upright Hypnum.

CRYPTOGAMIA Musci.

GEN. CHAR. *Capsule* with a lid. *Veil* smooth. *Flower-stalk* from a lateral tubercle invested with scales.

SPEC. CHAR. Frond pinnated, compressed, branched, upright. Flower-stalks from about the middle of the branch.

SYN. *Hypnum adiantoides.* Linn. *Sp. Pl.* 1588.
Huds. Fl. An. 494. *With. Bot. Arr. v.* 3. 116.
Relb. Cant. 408.

H. erectum filicifolium ramosum, pinnulis acutis.
Raii Syn. 87.

H. taxiforme palustre ramosum, majus & erectum.
Dill. Musc. 264. *t.* 34. *f.* 3.

NOT rare in wet boggy and shady places, among grass and other mosses, producing its capsules early in the spring. We gathered it in Kensington gardens.

The whole frond is somewhat rigid, smooth, of a fine bright green, erect, about two inches high, always more or less branched. Leaflets alternate, closely arranged in two rows, compressed, and therefore making the frond perfectly flat; they are pointed, entire, embracing the main rib at their base, and very deeply carinated at their back. One or two flower-stalks are produced from near the middle of each branch, each originating from a scaly bud. They rise much above the summit of the branch. The capsule is brown, nearly cylindrical, but not very long; the lid red, with a long taper beak; veil pellucid, tipped with brown; teeth of the capsule about sixteen, deeply cloven.



HYPNUM viticulosum.

*Cylindrical Hypnum.**CRYPTOGAMIA Musci.*

GEN. CHAR. *Capf.* with a lid. *Veil* smooth. *Flower-stalk* from a lateral tubercle invested with scales.

SPEC. CHAR. Stems creeping. Branches erect, straggling, cylindrical. Leaves spreading, pointed.

SYN. *Hypnum viticulosum.* Linn. *Sp. Pl.* 1592.
Huds. Fl. An. 501. *With. Bot. Arr.* v. 3. 131.
Relb. Cant. 412.

H. repens trichoides arboreum majus, capitulis et furculis erectis, minus ramosis. *Raii Syn.* 85.

H. subhirsutum, viticulis gracilibus erectis, capitulis teretibus. *Dill. Musc.* 307. t. 39. f. 43.

THIS moss was kindly communicated by the Rev. John Hemsted of Newmarket, with the *Hypnum adiantoides*. It often forms considerable dense tufts about the roots of old trees, sometimes among rocks and on chalk hills. When too much exposed to the sun, or when otherwise dried up, it turns very yellow, especially the older leaves. The creeping shoots are closely entangled, and throw up numerous branches without any order, which are very upright, often simple, but generally once or twice divided, clothed with lanceolate spreading acute leaves. The flower-stalks grow solitary towards the top, and are not very long. Capsule cylindrical, with about 16 simple teeth, and a taper lid. Veil light brown, pointed.

When dry the leaves curl in, and give the plant a very crisped appearance. The capsules are to be found in April, and remain in a dry state through the summer; but they are much more frequent in the north of England than with us.



LICHEN scrupofus.

*Hollowed Lichen.*CRYPTOGAMIA *Alga.*

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crustaceous, ash-coloured, granulated. Shields immersed, black; their margin incurved and finely notched.

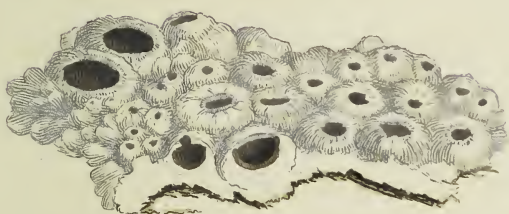
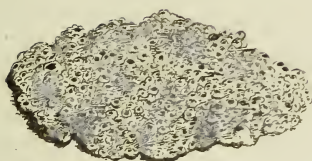
SYN. Lichen scrupofus. *Dickf. Crypt. fasc. 1. 11. With. Bot. Arr. v. 3. 179. Sibth. Oxon. 322.*

L. excavatus. Relb. Cant. 426.

Lichenoides crustaceum & leprosum, scutellis nigricantibus majoribus & minoribus, varietas B. *Dill. Musc. 133. t. 18. f. 15, B.*

ON dry chalky heaths, and brick walls not unfrequent in Norfolk, Suffolk and Cambridgeshire. The crust is mealy, varying in thickness, rugged, very white and chalky in appearance when dry; when wet more ash-coloured. The shields are not only imbedded in it, but also concealed by an elevated thick inflexed margin, crenated at the edge, of the substance and colour of the crust. Their disk is concave, of a brown black, or greyish.

This Lichen was confounded by Hudson and Dillenius with the ater, from which it is very distinct in texture and colour. Dr. Sibthorp in his Flora seems not to have been aware of its being the excavatus of Mr. Relhan, but has erroneously referred that to the muscorum of other authors, figured in *Fl. Cant. 424*. Micheli's figure *tab. 52 ord. 33* (not 53) seems to be our scrupofus.



Aug 28th 1795 P. M. 10 by J. Per... ..

GNAPHALIUM dioicum.

*Mountain Cudweed, or Cat's-foot.**SYNGENESIA Polygamia-superflua.*

GEN. CHAR. *Receptacle* naked. *Down* feathery. *Cal.* imbricated; its marginal scales rounded, membranous and coloured. *Florets* all equal and tubular.

SPEC. CHAR. Shoots procumbent. Stem perfectly simple, bearing a simple corymbus. Flowers diœcious.

SYN. *Gnaphalium dioicum.* Linn. *Sp. Pl.* 1199. *Huds. Fl. An.* 360. *With. Bot. Arr.* 894. *Relh. Cont.* 311.

G. montanum album. *Raii Syn.* 181. barren plant.

G. longiore folio & flore. *Raii Syn.* 182. fertile plant.

FOUND on dry mountainous heaths, and in barren pastures of England, Scotland and Wales. We received it from Mr. William Travis of Scarborough, in June last.

The roots are somewhat woody, creeping, perennial, and throw out long simple fibres which run deep into the ground. Runners several, leafy, procumbent, spreading in every direction. Leaves pointed, entire, bright green and smooth above, very white and cottony beneath; the radical ones, as well as those on the procumbent shoots, are spatulate, and the latter mostly opposite. From the crown of the root arises one simple upright flowering-stem, 3 or 4 inches high, round and cottony (like the runners), clothed with alternate lanceolate leaves, and terminated by a simple corymbus of 4 or 5 flowers, occasionally white or reddish; the latter particularly are very pretty, and both retain their colour when dry, being of the tribe of *Everlastings*. The white are most generally (not always) male in effect, having only a barren style, and very obscure rudiments of a seed, but their stamina are perfect. The others have only a pistillum, but even in these the seed is seldom perfected, as Mr. Woodward (in *Bot. Arr.*) justly observes, the plants increasing much by root. The scales of the calyx vary in length, but we do not find that either the long or round form is appropriated exclusively to either sex.



July 1/95 Willibrod, 119. 1/10

LACTUCA Scariola.

*Prickly Lettuce.**SYNGENESIA Polygamia-aqualis.*

GEN. CHAR. *Recept.* naked. *Cal.* imbricated, cylindrical, with a membranous margin. *Down* simple, on a foot-stalk.

SPEC. CHAR. Leaves perpendicular; their mid-rib prickly on the back.

SYN. *Lactuca Scariola.* *Linn. Sp. Pl.* 1119. *Huds. Fl. An.* 338. *Willd. Bot. Arr.* 834. *Rehb. Cant.* 293.

L. sylvestris costa spinosa. *Raii Syn.* 161.

GATHERED wild by the Rev. Mr. Hemsted near Denny Abbey between Cambridge and Ely. It grows among rubbish and on waste ground in other parts of that country, but rarely elsewhere, flowering in August.

Root biennial, very full of milky juice, as is every part of the plant. Stem erect, 2 or 3 feet high, round, prickly, leafy, branched at the top into a sort of panicle, consisting of numerous pale-yellow flowers. Leaves embracing the stem, toothed and prickly in the margin, their main rib set with numerous parallel spines along the back; the lowermost deeply lobed and sinuated; those on the stem turned perpendicularly, and not horizontal as in most plants. Calyx smooth. Flowers small. Seed furrowed lengthwise.

This species, though bitter, acrid and foetid in some degree, is much milder than the more common Wild Lettuce (*Lactuca virofa*), and may easily be distinguished from that by its paler colour altogether, its less spreading flower-branches, and its vertical leaves.

Dr. Stokes has exceedingly well observed that Hudson's variety β belongs to *L. virofa*.



S E R A P I A S latifolia.

*Broad-leaved Helleborine.**GRNANDRIA Diandria.*

GEN. CHAR. *Nectary* ovate, gibbous, with an ovate lip.

SPEC. CHAR. Roots creeping. Leaves ovate, embracing the stem. Flowers drooping. Lip entire, pointed, shorter than the petals.

SYN. *Serapias latifolia*. *Linn. Syst. Veg. Ed.* 14. 814.
Hudf. Fl. An. 393. *With. Bot. Arr.* 997. *Lightf. Scot.* 526. *Relb. Cant.* 340. *Sibth. Oxon.* 13.

S. Helleborine α. *Linn. Sp. Pl.* 1344.

Helleborine latifolia montana. *Raii Syn.* 383.

NOT uncommon in shady woods, especially in the mountainous parts of this kingdom; we are obliged to the Countess of Aylsford for this specimen. It flowers in July or August.

Root perennial, creeping horizontally, throwing out many long fibres, fleshy, but by no means bulbous, thriving in the moist black vegetable mould of damp woods. Stem simple, erect, near two feet high, clothed with several alternate, ovate or lanceolate leaves, the lower ones sheathing, the upper sessile, all strongly nerved, thin, rather rigid, not fleshy. Spike erect, many-flowered. Bractæ lanceolate, the lower ones longest. Flowers more or less drooping, on short flower-stalks, of a brownish green, and sometimes dark purple (which is Mr. Hudson's β); petals ovate, pointed, concave. Nectary shorter than the petals, concave, with a projecting margin; lip heart-shaped, entire, with a small recurved point, purplish, but not streaked. The colour of the flowers is very variable; they have generally a faint, aromatic, orchis-like smell. The germen and stem are more or less downy.



Aug. 1795. Illustrated by J. J. Smith, London.

S E R A P I A S palustris.

*Marsh Helleborine.**GYNANDRIA Diandria.*

GEN. CHAR. *Nectary* ovate, gibbous, with an ovate lip.

SPEC. CHAR. Roots creeping. Leaves lanceolate, embracing the stem. Flowers drooping. Lip crenate, obtuse, equal to the petals.

SYN. *Serapias palustris*. *Lightf. Fl. Scot.* 527.

S. latifolia γ, *palustris*. *Huds. Fl. An.* 393.

S. longifolia. *Linn. Syst. Veg. Ed.* 14. 815. *With. Bot. Arr.* 998. *Relb. Cant.* 341. *Sibth. Oxon.* 14.

Helleborine palustris nostras. *Raii Syn.* 384.

IN swampy meadows and on watery commons in various parts of England, not very unfrequent; we doubt its being to be met with in any other kind of situation. The flowers are in perfection about July or August.

Root creeping, fleshy, perennial. Stem erect, simple, 12 or 18 inches high, lower leaves ovate, often purple at the back; upper ones lanceolate, erect; all embracing the stem, and ribbed. Spike erect. Bractæ lanceolate, about equal to the germen. Flowers fewer and much larger than in the preceding species, drooping, with downy, purple flower-stalks and germen. Petals rather obtuse, the three outermost green, two innermost white, all streaked and stained with purple. Nectary about as long as the petals, white streaked with purple, and a yellow central line; lip heart-shaped, blunt, with a dilated waving crenated margin, and a notched protuberance above the base.

There is no doubt of this being a very distinct species from that in the last plate, and the characters above described sufficiently distinguish them; there must therefore be a very great error in Mr. Hudson's assertion, that this, if planted in a garden or dry soil, will the second year become *S. latifolia*. We have known such mistakes sometimes happen. We prefer Lightfoot's and Scopoli's name *palustris* to *longifolia*, because the latter is more applicable to many other species, and the former, being extremely apt, is most generally adopted.



1725 *W. H. & J. H. London*

SERAPIAS grandiflora.

White Helleborine.

GTNANDRIA Diandria.

GEN. CHAR. *Nectary* ovate, gibbous, with an ovate lip.

SPEC. CHAR. Root creeping. Leaves elliptico-lanceolate. Bractææ longer than the germen. Flowers erect. Lip obtuse, rather shorter than the petals.

SYN. *Serapias grandiflora*. *Lightf. Fl. Scot.* 528. *Witb.*

Bot. Arr. 1000. *Relb. Cant.* 341. *Sibth. Oxen.* 14.

S. longifolia. *Huds. Fl. An.* 393.

Helleborine flore albo. *Raii Syn.* 383.

COMMUNICATED by the Rev. Mr. Baker, F. L. S. from Gloucestershire. It occurs in woods and thickets, chiefly in the midland counties, very rarely in Scotland, flowering in June.

Root long and creeping, perennial. Stem about a foot high. Leaves ribbed, various in breadth, but generally rather elliptical than lanceolate, their base half embracing the stem. Spike erect, of from three to eight large white, nearly upright flowers. Lower bractææ like the leaves in form and size; the others gradually less, but none shorter than the germen, which is slender, and deeply furrowed. Petals but little expanded, and enclosing the lip of the nectary, which is heart-shaped, obtuse, entire, with three elevated longitudinal yellow ribs on the upper side.

Much confusion reigns among the British species of *Serapias*, which has chiefly originated with Linnæus, as is evident from the different editions of his works; nor are these plants settled as it could be desired in the *Supplementum*, nor in Murray's editions of *Syst. Veg.* The species before us is by the last-mentioned author very unaptly named *lancifolia*, and appears not to have been distinguished by him from *ensifolia*. Lightfoot, from his quotation of *Fl. Dan.* t. 506, seems to have fallen into the same error; as Hudson has likewise. The true *ensifolia* (see Withering) is Hudson's var. γ, and has long narrow leaves, very small bractææ, and a lip much shorter than the petals. We hope one day to obtain it from Westmoreland or the north of Yorkshire.



Aug. 1793 Published by J. Sowerby London

GERANIUM fangvineum.

*Bloody Craneſbill.**MONADELPHIA Decandria.*

GEN. CHAR. *Style* one. *Cor.* of 5 petals, regular.
Neſtary 5 glands at the baſe of the longer ſtamina.
Fruit beaked, ſeparating into 5 caſes, each tipped
 with a long ſimple naked awn.

SPEC. CHAR. *Stalks* ſingle-flowered. *Leaves* round-
 iſh, in 5 or 7 deeply ſeparated lobes, each of
 which is 3-cleft.

SYN. *Geranium fangvineum.* *Linn. Sp. Pl.* 958.
Hudſ. Fl. An. 305. *With. Bot. Arr.* 734. *Reſb.*
Cant. 263.

G. hæmatodes. *Raii Syn.* 360.

FREQUENT in thickets and rocky paſtures in the mountainous counties, but rare elſewhere; yet it bears the ſmoke of London better than moſt vegetables, if planted in a dry gravelly or calcareous ſoil. It is perennial, flowering moſt part of the ſummer, and making a very ornamental appearance.

Roots ſomewhat woody, producing many lax ſpreading branched leafy ſtems, often elegantly pendant from the brow of a rugged precipice, or ſcattered among ſhrubs over the broken ſtony ſoil in which this and moſt ſpecies of European Craneſbills delight. Theſe ſtems are round, jointed, a little ſwelling above and below the joints. Leaves oppoſite, deeply lobed and cut, roughiſh, their margins entire. Flower-ſtalks axillary, much longer than the leaves, bearing a ſolitary flower, furniſhed with a joint and two bractæ, more than half way between their baſe and their apex. We have a variety from Switzerland, ſent by Mr. Davall, which has 2 flowers and 4 bractæ from each of theſe joints.—The calyx is tipped with awns. Petals heart-shaped, crimſon, veiny, turning blue in decay. Seed-caſes nearly globoſe, briftly at their ſummit; beak downy. The ſtem, flower-ſtalks, calyx and back of the leaves are clothed with white ſlender ſpreading hairs; the upper ſide and margin of the leaves with ſhort depreſſed briftles.



SPARGANIUM natans.

Floating Bur-reed.

MONOECIA Triandria.

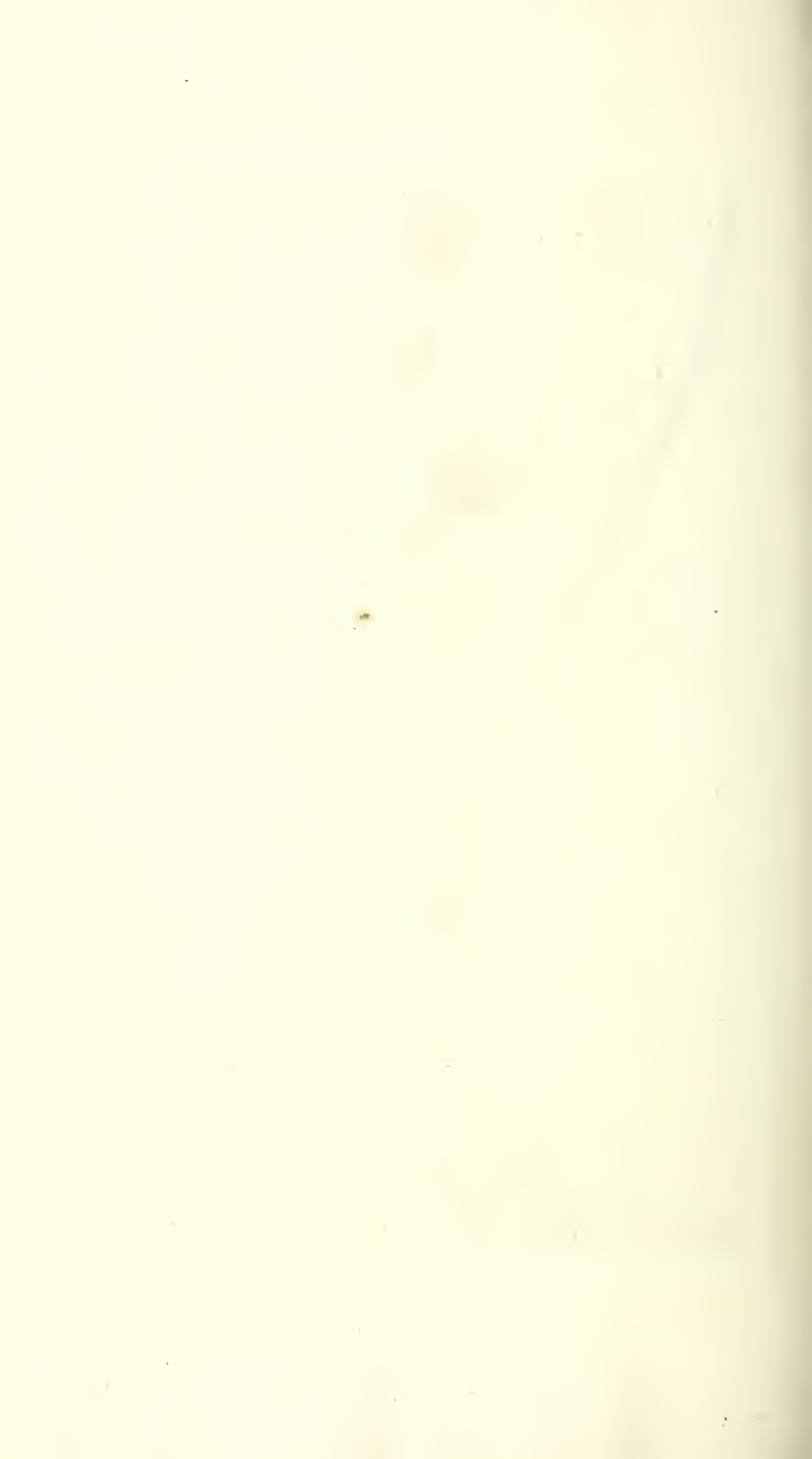
GEN. CHAR. Male, *Cal.* 3 leaved. *Cor.* none.
Female, *Cal.* 3-leaved. *Cor.* none. *Drupa* dry,
 with 1 seed.

SPEC. CHAR. Leaves drooping, flat. Heads of flowers
 in a simple spike, most of them accompanied by
 leaves. Style not longer than the germen.

SYN. *Sparganium natans.* Linn. *Sp. Pl.* 1378.
With. Bot. Arr. 1025. *Fl. Dan. t.* 260.
S. simplex, β . *Huds Fl. As.* 401.
S. minimum. *Raii Syn.* 437.

SENT by the Rev. Mr. Hemsted from Burwell fens, Cambridgeshire. It prefers a muddy or clay soil, flowering in July. Root perennial, creeping, with long fibres, running deep into the muddy bottoms of ditches or slow streams. Stems ascending, round, leafy. Leaves linear, narrow, thin and almost pellucid, flat; sheathing and a little channelled towards the base, but without any degree of *carina* or mid-rib; the lowermost long and floating, the rest gradually shorter. Flowers from the bosoms of the upper leaves, in 3 or 4 solitary little round heads: we can by no means comply with Linnæus in calling them *amenta*, with the definition and nature of which they do not agree; they are really *capitula*. The lowest is on a footstalk. The uppermost only, or part of the next, consists of male flowers; the rest are female. Calyx (which might perhaps be called corolla) of 3 whitish leaves in each flower. Stamina twice as long, capillary. Germen ovate, very smooth. Style simple; stigma oblique, with a fissure on the upper side. *Drupa* with 1 seed. We find the stigma always simple, and very generally so (as Leers observes) in the common *S. erectum*. The shortness of that part in the plant before us, seems the best mark of distinction between it and *S. erectum* & *simplex*, which are also very distinct from each other. Our plant agrees precisely with Mr. Rose's own specimens gathered near Norwich, and with the original Linnæan one intended in both editions of *Sp. Plant.* It seems also to be the true plant of Ray and Dillenius. Linnæus's Lapland specimen however is certainly not this, but *S. simplex*. His confounding them in *Fl. Suecica* led Mr. Hudson into the same error. We hope our elucidation of this point will be acceptable to the scientific botanist, as it could be settled by original specimens only.





ASTRAGALUS hypoglottis.

*Purple Mountain Milkwort.**DIADELPHIA Decandria.*GEN. CHAR. *Pod* of two cells, swelling.

SPEC. CHAR. Stem prostrate. Flowers in round heads. Pods ovate, with a channel along the back, compressed, hairy; tip reflexed.

SYN. *Astragalus hypoglottis*. *Linn. Mant.* 2. 274.
Sibth. Fl. Oxon. 227.*A. arenarius*. *Huds. Fl. An.* 323. *Relb. Cant.* 278.
Fl. Dan. 1. 614.*A. Danicus*. *Retz. Obs.* 3. 41. *With. Bot. Arr.* 787.*A. incanus parvus purpureus nostras*. *Raii Syn.* 326.
t. 12. *f.* 3.

THIS elegant little plant abounds on our dry heaths, as in the chalky tracts of Cambridgeshire, and on some elevated gravelly or sandy spots of Scotland as well as England, flowering throughout June and July. By the synonyms above cited it appears to have been much misunderstood, which arose from Linnæus's referring Ray's figure and description to his *arenarius*, and in such mistakes Mr. Hudson often too implicitly followed him. Linnæus afterwards strangely confounded it with *epiglottis*; but at length atoned for all by his excellent description in the *Mantissa altera*, where he first gives it as a new species by the name of *hypoglottis*, which Dr. Sibthorp learned from the Linnæan herbarium.

Roots perennial, branched, long, slender and creeping. Stems zigzag, but little branched, procumbent, angular, hairy, set with alternate, spreading, pinnated leaves, of about 6 pair or more of elliptic-ovate, bluntish leaflets, gradually lessening, and with a smaller odd terminal one; they are clothed with white close hairs beneath, but nearly smooth above. The *Flora Danica* represents them oval and very sharp, with the usual indiscriminative sweeping cut of that work, so like the figures of Sir John Hill. Heads of flowers one or two on each stem, erect, axillary, solitary, scarcely longer than the leaves till after flowering. Bractææ ovate, acute. Stalk and calyx clothed with black hairs mixed more or less with white ones, as in many exotic species. Corolla of a beautiful purple. Pods (which are not very well drawn by Dillenius in Ray's Synopsis) erect, ovate, triangular, the two outermost angles brought together so as to form a channel, the tip sharp, curved backward, whole surface black and rough, clothed with long whitish prominent hairs. The flowers sometimes vary to white.



Sept. 1795 Published by J. G. Smith, London.

NARCISSUS poeticus.

Poetic Narcissus.

HEXANDRIA Monogynia.

GEN. CHAR. *Petals* 6, equal. *Nectary* funnel-shaped, of one leaf, containing the *stamina*.

SPEC. CHAR. *Spatha* single flowered. *Cup* of the nectary very short, wheel-shaped, filmy, crenate. *Leaves* obtusely carinated, with a reflexed margin

SYN. *Narcissus poeticus*. *Linn. Sp. Pl.* 414. *Ait. Hort. Kew. V.* 1. 408.

N. majalis. *Curt. Mag.* 193, at the end.

GATHERED by Mr. Jacob Rayer on a rabbit warren at Shorne between Gravesend and Rochester, in flower May 26, 1795. It is also found at Wood Bastwick and in other parts of Norfolk, according to the late Mr. Rose, who always strenuously insisted upon Mr. Hudson's having confounded two different plants under his *N. poeticus*, and that this now before us was the true Linnæan species, which last opinion is confirmed by the Herbarium of Linnæus. Mr. Curtis's *angustifolius*, *Bot. Mag. t.* 193, may, as far as we can judge from his account, be distinct from this, though mere garden species are always to be received with caution. His is the kind of *Narcissus medio purpureus* most commonly noticed by old authors, and he has judiciously selected its synonyms, only mistaking that of Linnæus. We have no knowledge of its being found in a wild, or even naturalized state in England.

Our real *poeticus*, which whether originally a native or not, is now perfectly naturalized in sandy heathy places, or on many a

——— "breezy hill that skirts the down,"

has leaves more than half an inch in breadth, with a very obtuse keel, and somewhat reflexed margin. The flower is almost always solitary, large, very fragrant, pure white; the nectary bordered with orange or rather crimson; the antheræ short and roundish. A double variety is frequent in gardens.



NARCISSUS biflorus.

Pale Narcissus, or Primrose peerless.

HEXANDRIA Monogynia.

GEN. CHAR. *Petals* 6, equal. *Nectary* funnel-shaped, of one leaf, containing the *stamina*.

SPEC. CHAR. *Spatha* two-flowered. *Cup* of the *nectary* very short, wheel-shaped, filmy, crenate. *Leaves* acutely carinated, with an inflexed margin.

SYN. *Narcissus biflorus*. *Curt. Bot. Mag. t.* 197.

N. poeticus. *Huds. Fl. An.* 141. *With. Bot. Arr.* 341.

N. medio luteus vulgaris. *Raii Syn.* 371.

THIS wild specimen was gathered by Mr. Rayer with the preceding on a rabbit warren at Shorne. Ray suspected it not to have been originally a native, but we see no reason why it should not. At least it is now perfectly naturalized, though perhaps not found in so many situations of undoubted wildness as the *poeticus*. Mr. Curtis has well asserted it to be a distinct species from that and his *angustifolius*, and we beg leave to add to his remarks that the leaves of the *biflorus* have an inflexed margin, not a reflexed one as in *poeticus*, and a section of their keel forms an angle, not a segment of a circle, so that they may properly be called *acutely carinated*, though the keel itself being formed of two parallel lines, is externally flat. The *nectary* is bordered with white only, not red, and the *antheræ* are linear. The *spatha* bears sometimes 3 flowers, rarely but one. The petals are buff-coloured, not pure white, and it generally flowers earlier than *N. poeticus*, though we received them both in perfection together in the end of May. The root of each is a solid bulb, which is emetic and dangerous. *N. biflorus* is fragrant, but the smell if continued becomes unpleasant,





CENTAUREA Cyanus.

*Corn Blue-bottle.*SYNGENESIA *Polygamia frustranea.*

GEN. CHAR. *Recept.* bristly. *Seed-down* simple. *Corollæ* of the radius funnel-shaped, irregular, longer than those of the disk.

SPEC. CHAR. Scales of the calyx ferrated. Leaves linear, entire; the lowermost dentated.

SYN. *Centaurea Cyanus.* *Linn. Sp. Pl.* 1289. *Huds. Fl. An.* 375. *Witb. Bot. Arr.* 944. *Relb. Cant.* 325. *Sibth. Oxon.* 260. *Curt. Lond. fasc.* 6. t.

Cyanus. *Raii Syn.* 198.

THIS is a common weed in corn-fields, flowering about midsummer, or later, and sufficiently obvious to every body. Its white or dark-purple varieties, being of rare occurrence, are admitted into the flower garden, though really less beautiful than the natural sky-blue of the wild flower.

The root is small and annual. Stem 2 or 3 feet high, erect, harsh, angular, hollow, alternately and copiously branched, clothed with scattered lanceolate leaves, which are of a light greyish green, beneath somewhat cottony, ribbed, entire, the lower ones only being generally, though not infallibly, toothed; but the radical leaves are entire. A solitary flower terminates each branch, the scales of whose calyx are ferrated with brown indentations. *Corollæ* of the radius bright blue; those of the disk smaller and purplish. The seeds are small and polished, with a short wing or crown.

A blue water-colour is easily prepared from the expressed juice of these flowers mixed with a little cold alum water. This blue is however reported to be not permanent. By way of experiment we have coloured with it the separate floret at the bottom of our plate, as we have already found it last several weeks, and think it may probably be durable enough if not exposed to light.



CENTAUREA nigra.

*Black or lesser Knapweed.**SYNGENESIA Polygamia fruftranea.*

GEN. CHAR. *Recept.* bristly. *Seed-down* fimple. *Corolla* of the radius funnel-shaped, irregular, longer than those of the disk.

SPEC. CHAR. Scales of the calyx oval, ciliated with upright capillary teeth. Lower leaves lyrato-angulate; upper ones ovate. Flowers without a radius.

SYN. *Centaurea nigra.* *Linn. Sp. Pl.* 1288. *Huds. Fl. An.* 375. *With. Bot. Arr.* 943. *Relb. Cant.* 325. *Sibth. Oxon.* 260.

Jacea nigra. *Raii Syn.* 198.

Jacea. *Hall. Hist.* No. 184.

COMMON in pastures and by road sides every where, flowering from June to the end of August. The root is strong and perennial, somewhat creeping. Stems very rigid and hard, angular, about 2 feet high. Lower leaves lanceolate, toothed, many of them cut into angular lobes so as to become lyrate; the upper ones are ovate and entire; all of them alternate, but a little clustered under the flowers, which are terminal, solitary, red, consisting of hermaphrodite florets only without any radius. Scales of the calyx very black, finely pectinated, erect. Seed without any down.

Much confusion reigns in the synonyms of this species. Mr. Hudson at first took it for the *C. Jacea* of Linnæus, but corrected himself in his 2d edition, and the Linnæan Herbarium confirms his last opinion. We think with him that Bauhin's *Jacea nigra pratensis latifolia* must certainly be the plant before us. The true Linnæan *C. Jacea*, found in Sweden, is essentially different in having the calyx-scales much paler, membranous, lacinated but not ciliated, and the flowers radiated. This should seem to be Haller's No. 185, which Hudson quotes as a variety of his *nigra*, but erroneously; for though our *nigra* may occasionally acquire a radius, it remains still truly distinct from the *Jacea* in the calyx, as well as in having much broader leaves. Dillenius seems to have been well acquainted with the two species; see his note in *Raii Syn.* 199.



CONVALLARIA multiflora.

Common Solomon's-Seal.

HEXANDRIA Monogynia.

GEN. CHAR. Cor. 6-cleft. Berry spotted, 3-celled.

SPEC. CHAR. Leaves alternate, embracing the stem, which is round. Flower-stalks axillary, many-flowered.

SYN. Convallaria multiflora. Linn. Sp. Pl. 452.
Huds. Fl. An. 147. With. Bot. Arr. 355.

Polygonatum. Raii Syn. 263.

A NATIVE of woods and thickets in various parts of England, though not very common. It is often met with in country gardens, and will even bear the smoke of London. It is perennial, flowering in May or early in June.

The roots are fleshy, creeping horizontally, and are said by Linnæus in *Flora Suecica* to have been sometimes made into bread. Stems annual, a foot or more in height, simple, a little curved, leafy, smooth, round. Leaves alternate, elliptical, ribbed, each of those towards the middle part of the stem bearing from their bosoms a branched flower-stalk, which sustains from 2 to 5 drooping flowers, of a whitish colour tipped with green, very slightly downy at the summit, with a faint smell of bitter almonds. Stamina short, inserted into the tube of the corolla, as we ought to have described those of *C. verticillata* (tab. 128). Style slender, as long as the tube, with a 3-cleft stigma. Berries red, but rarely produced, the plant increasing so much by root.—Children sometimes eat the unripe germen, as it has a sweetish taste like green peas.



det. 1793. *Asparagus officinalis* L.

CONVALLARIA Polygonatum.

*Angular Solomon's-Seal.**HEXANDRIA Monogynia.*

GEN. CHAR. Cor. 6-cleft. Berry spotted, 3-celled.

SPEC. CHAR. Leaves alternate, embracing the stem, which is angular. Flower-stalks axillary, bearing scarcely more than one flower.

SYN. *Convallaria Polygonatum.* Linn. *Sp. Pl.* 451.
Huds. *Fl. An.* 146. With. *Bot. Arr.* 354.

Polygonatum floribus ex singulis pediculis. Raii
Syn. 263.

SUPPOSED to be much more rare than the last described, and we believe it is so, though it may have been overlooked from its resemblance to that species. It is thought to be peculiar to mountainous situations in the north; but this specimen was gathered by Mr. J. Rayer in Kent, and Dr. Smith found it on the sandy downs of Holland near the Hague. It flowers in May or June, and is perennial.

Root and whole habit of the plant like *C. multiflora*, except that the stem is scarcely so tall. The essential differences are, that the stem of *C. Polygonatum* is angular and compressed; the flowers scarcely more than one on a flower-stalk, larger, more fragrant, with broader segments, and more remarkably bearded. The berries are said to be blue.

The root of this also has been made into bread. Our South Sea voyagers made beer of the sweet root of *Dracena terminalis*, a plant very nearly related to these *Convallarias*. As they seem to abound with farinaceous matter, they might perhaps be made into starch or hair-powder when a scarcity of wheat is apprehended, for such a misfortune ought to be always guarded against in time before it is actually felt.



W. & A. G. Smith & Co. London



JUNGERMANNIA bicuspidata.

Forked Jungermannia.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male flowers sessile.

Female on a footstalk rising from a sheath. Capsule with 4 valves. Seeds attached to elastic filaments.

SPEC. CHAR. Fronds simply pinnated, bearing the fructification about the middle. Leaflets cloven at the tip.

SYN. *Jungermannia bicuspidata*. Linn. *Sp. Pl.* 1598. *Huds. Fl. An.* 511. *Witb. Bot. Arr. V.* 3. 142. *Relb. Cant. Supp.* 2. 19. *Sibth. Oxon.* 310.

Lichenastrum Trichomanis facie, foliolis bifidis, minimum. *Raii Syn.* 113.

L. pinnulis acutissimè bifidis, minimum. *Dill. Musc.* 488. *t.* 70. *f.* 13.

GATHERED April 24, 1795, in Hornsey wood in full fructification, as it is not unfrequently found at that season of the year in moist shady places.

It is supposed to be perennial, forming small patches of light green procumbent leafy branches, which are either simple or divided, clothed with little roundish leaves ranged alternately in two rows, the tips of which are cloven with an acutely angulated sinus. The flower-stalks are solitary and lateral about the middle of each branch, each arising from a tubular lacerated green sheath, scaly at its base, and bearing a globose black capsule, which soon bursts into 4 valves. We have not seen the male flowers (described by Hedwig) in this nor any other species, but his fidelity is indubitable.



61-1798 *Pleurozia repens* L. (1798)

LICHEN paschalis.

Crisp Lichen.

CRYPTOGAMIA Algae

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Shrubby, solid, clothed with minute crustaceous leaves. Tubercles terminal, prominent.

SYN. Lichen paschalis. *Linn. Sp. Pl.* 1621. *Huds. Fl. An.* 558. *Wilh. Bot. Arr. V.* 3. 216.

Lichenoides non tubulosum cinereum ramosum, totum crustaceum. *Raii Syn.* 66.

Coralloides crispum & botryforme Alpinum. *Dill. Musc.* 114. t. 17. f. 33.

THIS rare and elegant Lichen grows on the highest mountains of Wales, Westmoreland and Scotland, chiefly on micaceous rocks. Dr. Smith in his Tour, *vol.* 2. 113, has shewn this species to be the first beginning of vegetation on lava, and, from its being generally if not always found with us in mica, presumes it to be peculiarly attached to a volcanic soil. We have been favoured with a recent specimen from which this figure was taken, by the friendship of Mr. Edward Robson of Darlington.

The root and stems are very strong and woody, the latter growing, either erect or decumbent, in thick tufts; they are very much branched, naked at the base, roundish and solid, clothed in their upper part with small, lobed, crisped leaves, of a greenish grey when wet, whitish and very fragile when dry. The tubercles are terminal, either solitary or clustered, globose, solid, entire or lobed, on short foot-stalks, brown or olive-coloured. We have represented a separate branch magnified.



CAMPANULA Rapunculus.

Rampion Bell-flower.

PENTANDRIA Monogynia.

GEN. CHAR. *Cor.* bell-shaped, closed at the bottom by valves bearing the stamina. *Stigma* 3-cleft. *Capsule* inferior, opening by lateral pores.

SPEC. CHAR. Leaves undulated; the radical ones lanceolate inclining to oval. Panicle compact.

SYN. *Campanula Rapunculus.* *Linn. Sp. Pl.* 232. *Huds. Fl. An.* 95. *Witb. Bot. Arr.* 217.

Rapunculus esculentus. *Raii Syn.* 277.

ANATIVE of banks and borders of fields in some parts of England, more particularly Surrey and Kent. It is an old kitchen-garden vegetable, the root having been formerly eaten either raw in sallads or boiled. When recent it is the size and shape of a radish, but white, milky, sweetish with some pungency and bitterness. It is now out of use.

Root biennial. Stem erect, angular, rough (especially on the angles) with deflexed white hairs, the upper part being less rough, paniced and sometimes branched. Leaves roughish, undulated and toothed; the lowest somewhat elliptical, the others lanceolate; the floral leaves very narrow. Panicle compact, upright, its side branches bearing from one to three or more flowers. Germen in our specimens smooth, in those of Linnæus hairy, the hairs often inflated and becoming globular; teeth of the calyx very long and taper, generally entire, but sometimes bearing one small tooth on each side near the base, though they are by no means so denticulated as in *C. patula* (tab. 42), neither is the corolla taper at the base, as in that species, but inflated. The flowers appear in July and August.



1808. *Campanula, L.*

S P I R Æ A Filipendula.

Common Dropwort.

ICOSANDRIA Pentagynia.

GEN. CHAR. *Cal.* 5-cleft. *Petals* 5. *Capsules* with many seeds.

SPEC. CHAR. Leaves interruptedly pinnated; leaflets uniform, serrated. Stem herbaceous. Flowers cymose, with many styles.

SYN. *Spiræa Filipendula.* *Linn. Sp. Pl.* 702. *Huds. Fl. An.* 217. *With. Bot. Arr.* 518. *Relb. Cant.* 191. *Sibth. Oxon.* 157.

Filipendula. *Raii Syn.* 259.

IN mountainous pastures on a calcareous soil, especially in Cambridgeshire, Worcestershire, and Surrey, plentiful enough wherever it occurs at all. In Mr. Locke's park near Leatherhead this elegant plant grows abundantly, flowering early in July.

The very extraordinary perennial root consists of oval solid lumps hanging by threads from the main body, which lumps, being reservoirs of nourishment, enable the herb to resist drought, and render it besides very difficult to be eradicated. Stem erect, about a foot high, with a few alternate smooth leaves, which are a fine example of the *folium interruptè pinnatum*, consisting of one set of larger leaflets, with intermediate smaller ones; all of them are serrated and jagged, and all the leaflets of each set are uniform, or nearly corresponding in size. A pair of roundish united indented stipulæ, at the base of each compound leaf, embrace the stem. Flowers in a cymose loose panicle, cream-coloured, often tipped with red in a wild state. The styles in this and *S. Ulmaria* are numerous; so that a young student would be puzzled to find our only 2 species of *Spiræa* in the order *Pentagynia*, to which however the genus is very rightly referred by Linnæus, most of the other numerous species (if not all) having but 5 styles. These irregular species ought always to be enumerated at the end of the order or class to which they individually belong, as Linnæus generally practised.

In a garden soil this plant grows very luxuriant, and has often double flowers. The whole herb is astringent.



B E T A *maritima.**Sea Beet.*

PENTANDRIA Digynia.

GEN. CHAR. *Calyx* 5-leaved. *Cor.* none. *Seed* kidney-shaped, within the substance of the base of the calyx.

SPEC. CHAR. Stems procumbent. Flowers in pairs. Calyx entire.

SYN. *Beta maritima.* *Linn. Sp. Pl.* 322. *Huds. Fl. An.* 108. *With. Bot. Arr.* 257.

B. sylvestris maritima. *Raii Syn.* 157.

A N A T I V E of the sea shore in several parts of England, more especially in muddy places. Dr. Smith found it by the river side just below Lynn, with *Atriplex pedunculata* and other rarities. The specimen here delineated was gathered near Scarborough by Mr. William Travis, and we are the more obliged to this gentleman for his communication, as there is no figure of *B. maritima* extant.

Root, according to Ray, perennial, by which he says it differs from the garden Beets; its substance thick and fleshy. Stems several, prostrate, a circumstance which the form of our page would not allow of being duly expressed in the plate. Leaves succulent, the edge waved but entire, decurrent into the footstalk; the radical ones numerous and larger; those on the stem all turned upwards from the ground, and bearing in their *axilla* clusters of small leaves and flowers. The stem terminates in a more or less compound leafy spike, bearing the flowers either in pairs or solitary, never many together, by which circumstance, added to its prostrate stem and consequently vertical stem-leaves, and the keel of the calyx-leaves being entire, not toothed as in *B. vulgaris*, this species is with certainty distinguished, according to Linnæus, who cultivated it in his garden, and remarks that it flowered the first year. He thought it an annual. With us it appears to be perennial, flowering in August and September. The stigmas are very frequently three in number.



LEONURUS Cardiaca.

*Motherwort.**DIDYNAMIA Gymnospermia.*

GEN. CHAR. *Calyx* 5-angled. *Antheræ* sprinkled with shining dots. *Upper lip* of the *corolla* shaggy, concave.

SPEC. CHAR. Stem-leaves lanceolate, 3-lobed.

SYN. *Leonurus Cardiaca*. *Linn. Sp. Pl.* 817. *Huds. Fl. An.* 261. *With. Bot. Arr.* 618. *Relb. Cant.* 232.

Cardiaca. *Raii Syn.* 239. *Ger. em.* 705.

ITS proper situation is on banks and under hedges in a gravelly or calcareous soil, not on dunghills, except by accident, as Mr. Woodward remarks. It occurs here and there in Norfolk and Suffolk. Mr. Lightfoot found it in Monmouthshire. Our specimen grew in a lane near Combe wood, Surrey.

The root is at least biennial, according to Mr. Relhan perennial. Stem upright, 2 or 3 feet high, quadrangular and furrowed, often purplish, the angles downy. The greater part of the leaves are lanceolate and acutely three-lobed, with some notches besides; but the uppermost are undivided, and the lowermost very much and obtusely lobed and broad, something like those of the gooseberry. Whorls of flowers numerous. Calyx with 5 sharp spreading teeth. Corolla whitish externally, elegantly stained with paler and darker purple within. Antheræ, before they burst, sprinkled with white globular points, by which this genus is chiefly distinguished from *Phlomis*, if such a character be sufficient. The herb is bitter and tonic, with no very pleasant though pungent smell.



Nov. 1795. Ruellia by J. Sowerby. London.

TARGIONIA hypophylla.

Dotted Targionia.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Cal.* of 2 concave valves. *Seeds* very numerous, collected into a globe.

SPEC. CHAR. - - -

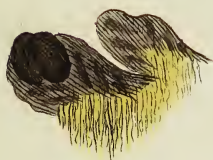
SYN. *Targionia hypophylla.* *Linn. Sp. Pl.* 1603.
Huds. Fl. An. 519. *Wilb. Bot. Arr. V.* 3. 157.
Lightf. Scot. 792.

Lichenastrum capitulo oroboide. *Raii Syn.* 110.

Lichen petræus minimus, fructu Orobi. *Dill. Musc.*
 532. t. 78. f. 9.

VERY few botanists have gathered this plant in Britain, inasmuch that several of the most accurate have doubted whether some *Marchantia* or *Jungermannia* had not been mistaken for it. We are enabled to decide this point by means of wild specimens gathered by the Rev. Mr. Kirby, on a bank near Nayland in Suffolk. Hudson found it in Devonshire, a part of the island where it is most to be expected, considering its frequency on rocks and banks in the south of Europe, see Smith's Tour.

The fronds are obcordate, growing somewhat imbricated in thick tufts, attached by dense fibrous roots, and spreading very wide in a circular form. In hot or dry weather their margins are curled in, showing the black under side, when the whole plant seems to be withered; but in moisture they recover their verdure, and are of a deep shining green, sprinkled with whitish projecting points, and marked with a slight longitudinal furrow, which Micheli's figure expresses, but which Dillenius (fond of indulging his spleen towards that excellent author) pretends he could not perceive. On the under side of the frond in its terminal notch stands a solitary fructification, consisting of two blackish concave equal valves, enclosing a ball the size of a small vetch seed, which consists of a fine skin investing innumerable powdery seeds like those of a *Lycoperdon*, in their ripe state dark brown, but yellow when younger, and before they arrive at maturity enveloped in a fluid. We know nothing of the flower or mode of impregnation, but the genus is certainly distinct enough from *Jungermannia* and *Marchantia*, and we think also from *Spharocarpus*. See Withering.



No. 1795 *Ptilothela* Sowerby London

LICHEN faccatus.

Socket Lichen.

CRYPTOGAMIA *Alga.*

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

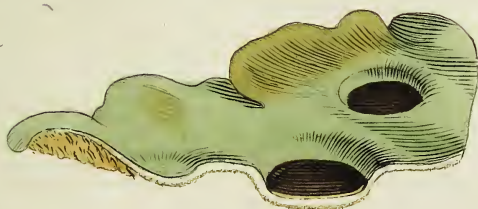
SPEC. CHAR. Coriaceous, creeping in a somewhat circular form. Shields sunk into deep pits in the leaf, projecting on the under side.

SYN. Lichen faccatus. *Linn. Sp. Pl.* 1616. *Huds. Fl. An.* 548. *With. Bot. Arr. V.* 3. 205. *Lightf. Scot.* 855.Lichenoides Lichenis facie, peltis acetabulis immerfis. *Dill. Musc.* 221. t. 30. f. 121.

THE native place of growth of this Lichen is (as Mr. Lightfoot well expresses it) "upon the earth in the chasms of rocks that are damp and shady." In such situations Dr. Smith found it in the north west part of Yorkshire, and near Matlock just above the road from the old bath-house to the temple. We have also received it from the Rev. Mr. Davies and the Rev. Mr. Relhan, two most accurate investigators of Cryptogamous plants.

The fronds spread circularly, a little imbricated; their texture is leathery, but tender when wet; upper surface smooth, of a fine grass green turning brown in decay, the under side white and downy. Shields deeply immersed in sockets or pouches of the frond in a very peculiar manner, for which this curious species is remarkable; they are a little concave, blackish, without any margin, but covered when young with a fine skin which cracks in the centre.

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Melospiza Pall. ad hypostomum

I N D E X

OF THE ENGLISH NAMES

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